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# Flight Test Evaluation of the Stanford University/United Airlines Differential GPS Category III Automatic Landing System

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David N. Kaufmann and B. David McNally, Ames Research Center, Moffett Field, California

June 1995



National Aeronautics and  
Space Administration

**Ames Research Center**  
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**FLIGHT TEST EVALUATION OF THE  
STANFORD UNIVERSITY/UNITED AIR LINES  
DIFFERENTIAL GPS CATEGORY III  
AUTOMATIC LANDING SYSTEM**

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**May 1995**



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## **INTRODUCTION**

The Federal Aviation Administration (FAA) has established a program to evaluate the technical feasibility of using Differential Global Positioning System (DGPS) based technology for International Civil Aviation Organization (ICAO) Category (CAT) IIIB precision approach and landing applications. This program includes evaluation of DGPS systems developed by independent researchers/contractors onboard test aircraft provided by member airlines of the Air Transport Association.

The overall objective here was to verify that the Stanford University/United Airlines DGPS system demonstrated the capability to meet the requirements for accuracy and integrity, as specified in the FAA CAT III Level 2 Flight Test Plan [2], over at least 91 completed CAT IIIB approach and autolandings.

Specific objectives were:

1. Accuracy: Determine whether the CAT IIIB equipment met 1) FAA AC 20-57A (Automatic Landing Systems) [3], AC 120-28C (Criteria for Approval of CAT III Landing Weather Minima) [4] and the Required Navigation Performance (RNP) for total system error for a straight-in, Instrument Landing System (ILS) like approach for CAT IIIB, and 2) ICAO Annex 10 [5] Microwave Landing System (MLS) accuracy requirements for navigation sensor errors.
2. Integrity Monitor Response: Determine whether the CAT IIIB equipment integrity monitor response had a low alarm rate and detected out of tolerance total system and navigation sensor errors. The CAT IIIB equipment was expected to detect all satellite signal anomalies which did occur. In addition, the CAT IIIB equipment was not expected to generate any false alarms.

The Stanford University/United Airlines system performance was compared to Measures of Success (MOSSs) as specified in the FAA CAT III Level 2 Flight Test Plan, where determination of successful performance was based on statistical hypothesis testing. For the Stanford University/United Airlines system to be considered successful, MOSSs based on total system error must have successful performance [2]. MOSSs based on navigation sensor error were included to acquire additional information on system performance, but the primary interest was in total system error.

## **ACCURACY AND INTEGRITY REQUIREMENTS**

The RNP specifies system accuracy in terms of total system error, as opposed to navigation sensor error as currently specified for ILS. For precision approaches, the RNP describes the required accuracy via two concentric rectangular tunnels that surround the final approach path to the landing runway [1]. Both tunnels are centered around the 3 degree glide path that intercepts the runway 954 ft past the threshold and decrease in lateral and vertical size as the runway intercept point is reached.

The inner tunnel defines a region within which the aircraft's Center of Gravity (CG) must be contained a minimum of 95 percent of the time. Associated with the inner tunnel is a two-dimensional touchdown dispersion box that extends  $\pm 27$  ft laterally from the runway

centerline and  $\pm 750$  ft longitudinally from the runway intercept point. The aircraft CG must be contained within this box at touchdown a minimum of 95 percent of the time.

The outer tunnel defines a region beyond which no part of the aircraft is allowed to extend with a probability greater than 1 in  $10^7$  landings.

The navigation sensor error is specified in terms of two parameters: Path Following Error (PFE) and Control Motion Noise (CMN). With regard to MLS, PFE is defined as that portion of the guidance system error which will result in an actual aircraft displacement from the desired flight path [5]. CMN is defined as that portion of the guidance system error which, when coupled to the autopilot, results in control surface, wheel and column motion, and possibly attitude angle change, but does not cause aircraft displacement from the desired flight path [5].

The integrity under normal operating conditions is specified in terms of false alarms, missed alarms and time to alarm. A maximum of one false alarm is allowed and there can be no missed alarms. In addition, any alarm condition must be acknowledged in two seconds or less.

The specific accuracy requirements for MOS 1 through MOS 4 as well as the specific integrity requirements for MOS 6 and MOS 7 are described in detail in the FAA CAT III Level 2 Flight Test Plan.

## FLIGHT TEST FACILITIES

All test flights were conducted at NASA Ames Research Center's Crows Landing Flight Facility, located in the San Joaquin Valley approximately 45 miles East of the NASA Ames Research Center. The NASA test facility at Crows Landing includes two Nike X-band monopulse radar trackers and one precision NiYag laser tracker. The laser tracker provides precise aircraft range, azimuth and elevation and is used to provide the GPS time-tagged truth reference data by tracking a laser retro-reflector mounted on the test aircraft.

The stated laser tracker range accuracy is nominally  $\pm 1$  ft ( $1\sigma$ ) out to 30,000 ft; azimuth and elevation accuracy are nominally  $\pm 0.2$  mrad ( $1\sigma$ ). These values equate to an estimated position error of  $\pm 0.230$  m along-track,  $\pm 0.489$  m laterally and  $\pm 0.448$  m vertically at the 100 ft Height Above Threshold (HAT) position along the 3 degree approach path (2230 m from the laser tracker). However, experience with the laser tracker during this and other approach and landing flight tests has demonstrated accuracies which are consistently better than shown above.

The laser tracker was calibrated immediately prior to the start of the series of approaches during each test flight. In addition, the laser tracker was checked after each approach by tracking a static laser retro-reflector mounted at a survey point located approximately underneath the 100 ft HAT position along the 3 degree approach path (See Figure 1).

In the laser truth reference data post-processing, laser range, azimuth and elevation data were wild-pointed and smoothed with a zero phase-shift, low-pass digital filter. The static laser check data were then used to identify laser range, azimuth and elevation

biases as a function of time. The laser truth reference data were corrected for refraction errors, and finally converted to the rectangular Runway Coordinate System (RCS).

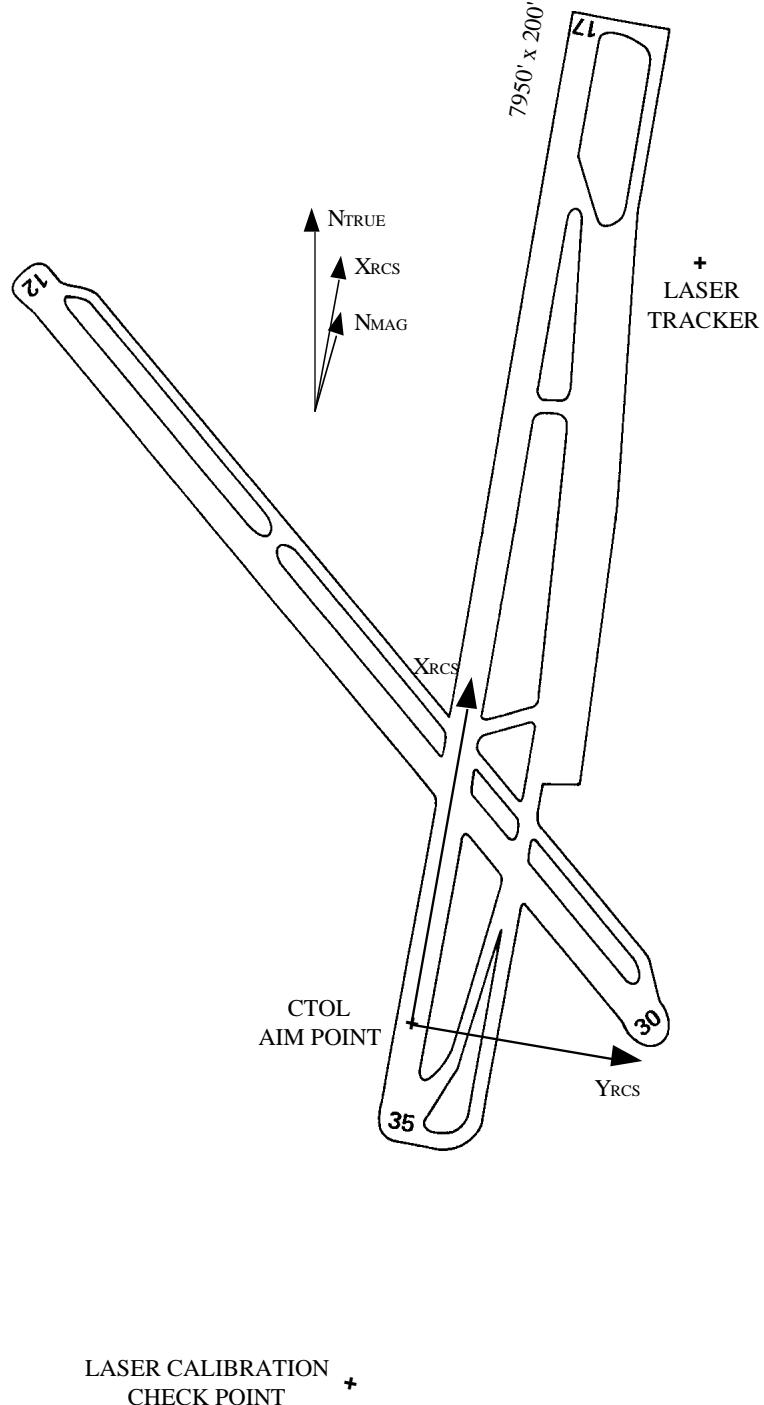


Figure 1 Crows Landing Flight Facility

Figure 2 shows a laser truth reference position error of  $\pm 0.061$  m ( $1\sigma$ ) laterally and  $\pm 0.084$  m ( $1\sigma$ ) vertically at the static laser retro-reflector position (2420 m from the laser tracker) for a five minute laser track of the static laser retro-reflector on the last day of the flight test. This data is the result of the above mentioned post-processing steps and is

characteristic of static laser checks of this and other approach and landing flight tests conducted at Crows Landing.

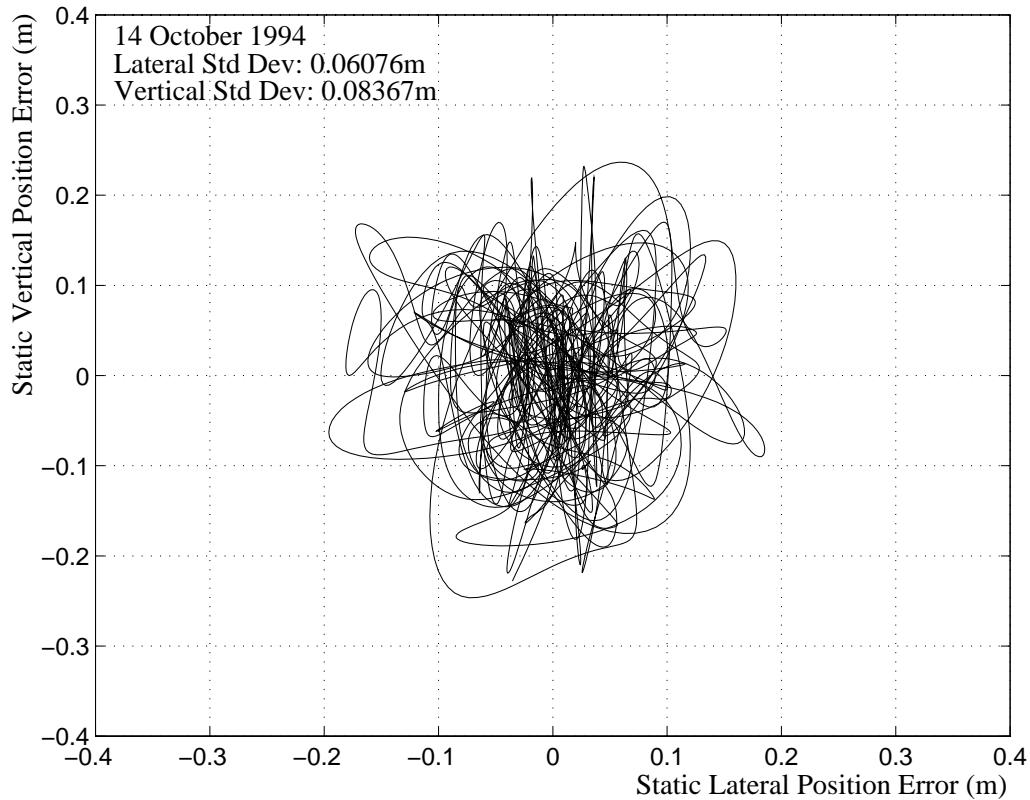


Figure 2 Smoothed And Bias Corrected  
Static Laser Tracker Calibration Check Position Error  
CTOL Laser Calibration Check Target (Range: 2420 Meters)

## FLIGHT TEST DESCRIPTION

The flight test consisted of standard 3 degree glide path straight-in approaches terminating with autolandings to Runway 35 at the Crows Landing Flight Facility (See Figure 3). Each approach was started at the Initial Approach Fix (IAF) located five nautical miles out along the runway centerline with the test aircraft established on speed, on course, on glide path, configured for autolanding with all data collection equipment operational.

Laser tracking data were recorded from the time the test aircraft crossed the Final Approach Fix (FAF), located three and a quarter nautical miles out along the runway centerline, through autolanding and the subsequent touch and go or landing roll-out. At the completion of the touch and go, the test aircraft was flown back to the IAF (via the test pattern depicted in Figure 4), to set up for another approach. Ten percent of the autolandings terminated with a full stop, followed immediately with a takeoff to set up for another approach.

All of the approach and landings, from the FAF to touchdown, were accomplished with the guidance coupled to the autopilot. Upon touchdown, the autopilot was disengaged, and the pilot assumed control of the aircraft. All test flights were flown in day Visual Meteorological Conditions (VMC).

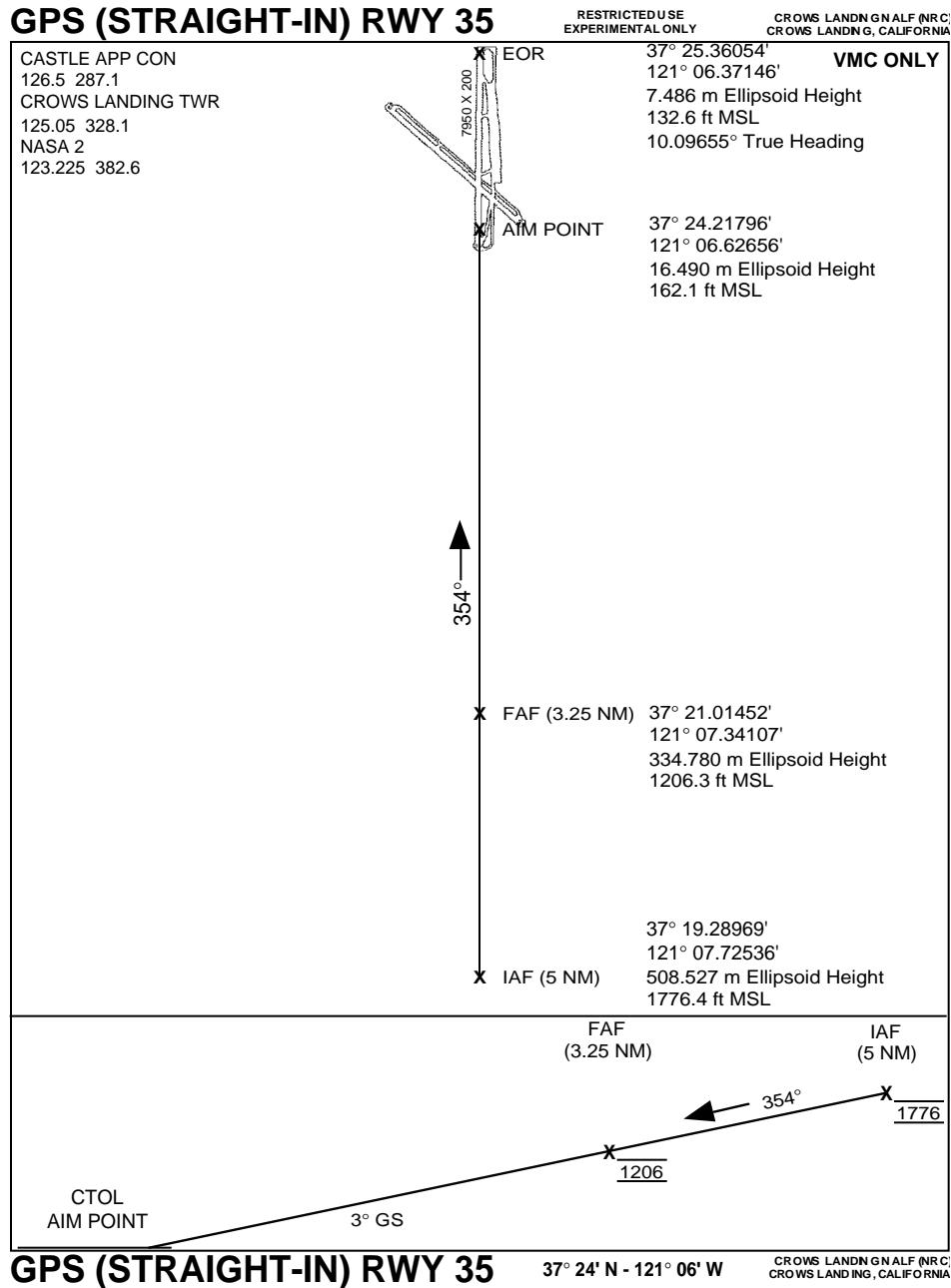


Figure 3 Crows Landing Flight Facility Runway 35 Approach

After the test aircraft initiated the touch and go or takeoff, the laser tracker was used to track the static laser retro-reflector, located on the runway centerline approximately 1600

ft prior to the Runway 35 Threshold (See Figure 1), to perform the laser tracker calibration check as discussed in the previous section. At the completion of the laser track of the static laser retro-reflector, the laser tracker re-acquired the test aircraft on its turn from base to final.

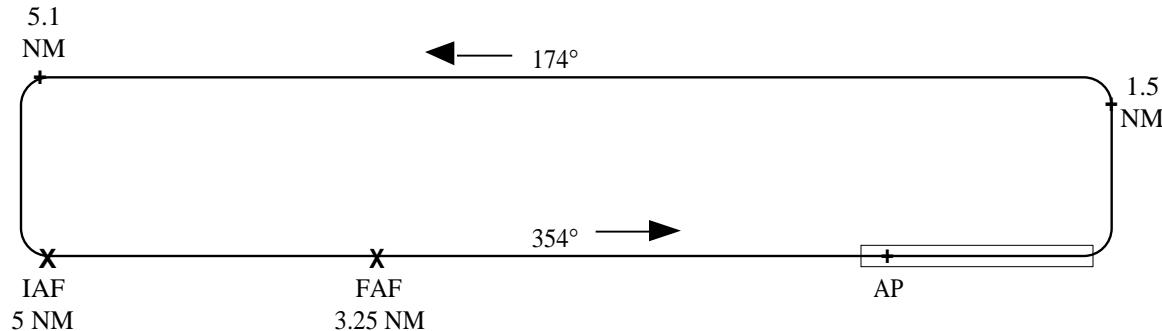


Figure 4 Crows Landing Flight Facility Runway 35 Flight Test Pattern

## FLIGHT TEST RESULTS

All of the 100 approaches and autolandings evaluated were accomplished at the Crows Landing Flight Facility between 11 and 14 October 1994. Using the laser tracker as ground truth reference, both total system error and navigation sensor error were measured and evaluated for all of the approaches and autolandings. For the Stanford University/United Airlines system to be considered successful, MOSs based on total system error must achieve successful performance. MOSs based on navigation sensor error were included to acquire additional information on system performance, but the primary interest was in total system error. Refer to the FAA CAT III Level 2 Flight Test Plan for a complete discussion of the individual MOSs as well as the data processing procedures for each of the different MOSs.

### Vertical Navigation Sensor Error

Evaluation of the vertical navigation sensor error, MOS 1, was based on passing the difference between the laser tracker truth reference and the vertical navigation sensor error (both referenced to the navigation reference point (NRP)) through the vertical PFE and CMN ICAO Annex 10 filters for MLS evaluation. The vertical PFE and CMN filter outputs were compared to the 95 percent thresholds from the 700 ft HAT position to the 50 ft HAT position. Estimation statistics were evaluated on the ensemble data from the 1000 ft HAT position through autolanding and the subsequent touch and go or landing roll-out to further characterize the flight test results. Refer to Appendix B for all MOS 1 statistics and plots as required by the FAA CAT III Level 2 Flight Test Plan.

Of the 100 approaches and autolandings evaluated, 50 failed MOS 1 specifications, resulting in the failure of MOS 1. All of the approaches that failed MOS 1 did so by exceeding the vertical PFE filter limits prior to reaching approximately the 500 ft HAT position. This position coincides with the position where the transition from the less accurate code-based solution to the more accurate kinematic solution occurs. In addition, these transitions created relatively large vertical position discontinuities in several of the

50 approaches that failed MOS 1, which in turn resulted in CMN filter spikes that exceeded the vertical CMN filter limits.

### **Lateral Navigation Sensor Error**

Evaluation of the lateral navigation sensor error, MOS 2, was based on passing the difference between the laser tracker truth reference and the lateral navigation sensor error (both referenced to the NRP) through the lateral PFE and CMN ICAO Annex 10 filters for MLS evaluation. The lateral PFE and CMN filter outputs were compared to the 95 percent thresholds from the 200 ft HAT position through autolanding and the subsequent touch and go or landing roll-out. Estimation statistics were evaluated on the ensemble data from the 1000 ft HAT position through autolanding and the subsequent touch and go or landing roll-out to further characterize the flight test results. Refer to Appendix B for all MOS 2 statistics and plots as required by the FAA CAT III Level 2 Flight Test Plan.

All 100 of the approaches and autolandings passed MOS 2 specifications, resulting in the success of MOS 2.

### **Vertical Total System Error**

Evaluation of the vertical total system error, MOS 3, was based on the difference between the test aircraft NRP vertical position, as determined by the laser tracker, and the vertical position the NRP should have been at on the desired flight path. The total system vertical error was evaluated relative to the inner RNP vertical tunnel limits from the 700 ft HAT position to the 50 ft HAT position. Estimation statistics were evaluated on the ensemble data from the 1000 ft HAT position through autolanding and the subsequent touch and go or landing roll-out to further characterize the flight test results. Refer to Appendix A for all MOS 3 statistics and plots as required by the FAA CAT III Level 2 Flight Test Plan.

Of the 100 approaches and autolandings evaluated, only two failed MOS 3 specifications, resulting in the success of MOS 3. The two approaches that failed MOS 3 did so by exceeding the lower inner RNP vertical tunnel limits prior to reaching approximately the 500 ft HAT position. Again, this position coincides with the position where the transition from the less accurate code-based solution to the more accurate kinematic solution occurs. The relatively large vertical position discontinuity at this transition point combined with the slow autopilot response resulted in an over-shoot of the desired glide path and subsequent penetration of the upper inner RNP vertical tunnel limits prior to settling down on the desired glide path.

It is interesting to note that the two approaches that failed MOS 3 occurred on two different days separated exactly by 23 hours and 56 minutes. In other words, it appears that the test aircraft was in the same position in space, with the same satellite geometry for both of the approaches. Both the Horizontal Dilution of Precision (HDOP) and Vertical Dilution of Precision (VDOP) values, as well as the number of satellites, were the same for both of the approaches. In addition, the error trajectory plots for each of the two approaches were very similar.

### **Lateral Total System Error**

Evaluation of the lateral total system error, MOS 4, was based on the difference between the test aircraft NRP lateral position, as determined by the laser tracker, and the lateral position the NRP should have been at on the desired flight path. The total system lateral error was evaluated relative to the inner RNP lateral tunnel limits from the 200 ft HAT position through autolanding and the subsequent touch and go or landing roll-out.

Estimation statistics were evaluated on the ensemble data from the 1000 ft HAT position through autolanding and the subsequent touch and go or landing roll-out to further characterize the flight test results. Refer to Appendix A for all MOS 4 statistics and plots as required by the FAA CAT III Level 2 Flight Test Plan.

All 100 of the approaches and autolandings passed MOS 4 specifications, resulting in the success of MOS 4.

### **Touchdown Dispersion**

Evaluation of the touchdown dispersion, MOS 5, was based on longitudinal and lateral total system error at the touchdown point. The total system longitudinal error was evaluated relative to the 1500 ft long touchdown dispersion box while the total system lateral error was evaluated relative to the inner RNP lateral tunnel limits. Estimation statistics were evaluated on the ensemble data from touchdown through the subsequent touch and go or landing roll-out to further characterize the flight test results. Refer to Appendix A for all MOS 5 statistics and plots as required by the FAA CAT III Level 2 Flight Test Plan.

All 100 of the approaches and autolandings passed MOS 5 specifications, resulting in the success of MOS 5. All of the touchdowns were accomplished with the outboard landing gear position less than 145 ft away from the runway centerline.

### **Integrity Under Normal Operation**

Evaluation of the integrity under normal operation, MOS 6, was based on determining the number of missed alarms and false alarms along an approach as well as the time to alarm. For the total system error evaluation, the total system error was compared to the outer RNP tunnel boundary minus the approximate dimensions of a Boeing 747 aircraft. For the navigation sensor error evaluation, the navigation sensor error was compared to ILS CAT III monitor limits for position errors. The true alarm state was determined by the ground truth reference provided by the laser tracker. Estimation statistics were not evaluated due the fact that few or no alarms were expected.

All 100 of the approaches and autolandings passed MOS 6 specifications, using both the navigation sensor error analysis as well as the total system error analysis, resulting in the success of MOS 6. There were no integrity alarms during any of the 100 approaches and autolandings evaluated. In addition, there were no vertical or lateral missed or false alarms.

### **Integrity Under Artificial Alarm Limits**

Evaluation of the integrity under artificial alarm limits, MOS 7, was not accomplished on the Stanford University/United Airlines system.

## **SUMMARY OF RESULTS**

Refer to Table 1 for a summary of all of the requirements compared to the actual performance, as well as a Pass or Fail score for each of the MOSSs evaluated.

Table 1 Summary of Performance vs. MOS

MOS #	Description	Performance	Req'd	Pass/Fail
1	Vertical Navigation Sensor Error: PFE and CMN	50 successful/100	91/100	Fail
2	Lateral Navigation Sensor Error: PFE and CMN	100 successful/100	91/100	Pass
3	Vertical Total System Error	98 successful/100	91/100	Pass
4	Lateral Total System Error	100 successful/100	91/100	Pass
5	Touchdown Dispersion: Lateral and Longitudinal Touchdown Dispersion Outboard Landing Gear < 145 ft From Centerline	100 successful/100 0	91/100 $\leq 1$	Pass Pass
6	Integrity Under Normal Operation Vertical: Time-To-Alarm Always $\leq 2$ Seconds Number of Missed Alarms Lateral: Time-To-Alarm Always $\leq 2$ Seconds Number of Missed Alarms Number of Vertical and Lateral False Alarms	Yes 0 Yes 0 0	Yes 0 Yes 0 $\leq 1$	Pass Pass Pass Pass Pass
7	Integrity Under Artificial Alarm Limits Vertical: Time-To-Alarm Always $\leq 2$ Seconds Number of Missed Alarms Number of Alarms Per Minute Lateral: Time-To-Alarm Always $\leq 2$ Seconds Number of Missed Alarms Number of Alarms Per Minute Number of Vertical and Lateral False Alarms	N/A N/A N/A N/A N/A N/A N/A N/A	Yes 0 $\sim 1$ Yes 0 $\sim 1$ $\leq 1$	N/A N/A N/A N/A N/A N/A N/A N/A

Refer to Appendix A for the total system error, and to Appendix B for the navigation sensor error estimation statistics as well as all ensemble plots specified in the FAA CAT III Level 2 Flight Test Plan. Appendix C contains the individual approach and autolanding data and corresponding plots for each of the 100 approaches and autolandings.

## CONCLUSIONS

The Stanford University/United Airlines system met the requirements for a successful approach and autolanding, based on the total system error requirements, 98 out of 100 approaches and autolandings, thereby satisfying all of the total system error MOSSs. Based on navigation sensor error, 50 out of 100 approaches and autolandings failed MOS 1 specifications, however, the remaining navigation sensor error MOS specifications were satisfied.

All of the unsuccessful approaches were due to the relatively inaccurate code-based solution. Once the transition to a kinematic solution occurred, the remainder of the

approach and subsequent autolanding was within the limits specified by all of the MOSSs. Had this transition occurred prior to the 850 ft HAT position, where the vertical analysis began, all 100 approaches would have been successful, for both the total system error evaluation as well as the navigation sensor error evaluation.

## LIST OF REFERENCES

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*"Required Navigation Performance (RNP) for Precision Approach and Landing with GNSS Application"*  
NAVIGATION, Journal of the Institute of Navigation, Vol. 41, No. 1, Spring 1994
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*"Criteria for Approval of Category III Landing Weather Minima"*  
AC 120-28C, 3 September 1984
5. International Civil Aviation Organization  
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Annex 10, Convention on International Civil Aviation, Volume 1, April 1985

## **APPENDIX A**

### **TOTAL SYSTEM ERROR RESULTS**

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 VRT TOTAL SYSTEM ACCURACY PERFORMANCE FOR MOS 3
 \*\*\*\*

SUCCESSFUL APPROACHES: 98  
 VALID APPROACHES: 100

\$\$\$\$\$\$\$\$\$\$\$\$\$\$  
 \$ PASS MOS 3 \$  
 \$\$\$\$\$\$\$\$\$\$\$\$\$\$

\*\*\*\*\*
 VRT TOTAL SYSTEM ACCURACY ESTIMATION STATISTICS
 \*\*\*\*

LOCATION	u +2SIG(m)	2RMS(m)	95P(m)	2SIGUCL(m)
1000FT HAT	16.633	14.884	17.974	122.987
900FT HAT	16.111	14.502	16.115	125.104
800FT HAT	16.003	14.507	14.423	129.567
700FT HAT	15.870	14.406	15.837	128.437
600FT HAT	15.523	14.035	15.808	120.000
500FT HAT	13.465	12.171	14.556	90.149
400FT HAT	6.893	6.221	6.212	23.367
300FT HAT	8.962	8.030	9.866	36.790
200FT HAT	3.083	2.760	2.751	3.937
100FT HAT	2.405	2.224	2.214	3.199
50FT HAT	2.180	2.065	1.931	2.829

\*\*\*\*\*
 VERT TOTAL SYSTEM ACCURACY ESTIMATION MEAN (m)
 \*\*\*\*

LOCATION	VFTE	VSE	VTSE	VTSEestimate
1000FT HAT	3.132	-2.476	3.132	0.657
900FT HAT	2.494	-2.201	2.494	0.293
800FT HAT	2.146	-2.143	2.146	0.003
700FT HAT	2.073	-2.218	2.073	-0.145
600FT HAT	2.187	-2.244	2.187	-0.056
500FT HAT	1.906	0.430	1.906	2.336
400FT HAT	-1.008	0.415	-1.008	-0.593
300FT HAT	-1.578	0.217	-1.578	-1.361
200FT HAT	-0.667	0.193	-0.667	-0.475
100FT HAT	-0.227	0.152	-0.227	-0.075
50FT HAT	-0.132	0.066	-0.132	-0.066

\*\*\*\*\*
 VERT TOT SYS ACC ESTIMATE ESTIMATION STATISTICS
 \*\*\*\*

LOCATION	u +2SIG(m)	2RMS(m)	95P(m)	2SIGUCL(m)
1000FT HAT	8.348	7.802	6.872	39.912
900FT HAT	5.421	5.162	3.790	17.746
800FT HAT	3.105	3.102	3.233	6.492
700FT HAT	3.074	2.944	2.843	5.791
600FT HAT	2.307	2.253	2.356	3.417
500FT HAT	13.734	12.319	15.081	87.660
400FT HAT	6.311	5.840	5.609	22.063
300FT HAT	8.686	7.814	9.674	36.199
200FT HAT	2.857	2.564	2.643	3.829
100FT HAT	2.257	2.187	2.140	3.213
50FT HAT	2.114	2.052	1.918	2.830

\*\*\*\*\*
 VRT TOTAL SYSTEM ACCURACY ESTIMATION STD DEV(m)
 \*\*\*\*

LOCATION	VFTE	VSE	VTSE	VTSEestimate
1000FT HAT	6.750	6.686	6.750	3.846
900FT HAT	6.808	6.612	6.808	2.564
800FT HAT	6.929	6.557	6.929	1.551
700FT HAT	6.898	6.523	6.898	1.465
600FT HAT	6.668	6.453	6.668	1.125
500FT HAT	5.779	1.096	5.779	5.699
400FT HAT	2.942	0.199	2.942	2.859
300FT HAT	3.692	0.151	3.692	3.662
200FT HAT	1.208	0.116	1.208	1.191
100FT HAT	1.089	0.096	1.089	1.091
50FT HAT	1.024	0.085	1.024	1.024

\*\*\*\*\*
LAT TOTAL SYSTEM ACCURACY PERFORMANCE FOR MOS 4
\*\*\*\*\*

SUCCESSFUL APPROACHES: 100  
VALID APPROACHES: 100

\$\$\$\$\$\$\$\$\$\$\$\$\$\$  
\$ PASS MOS 4 \$  
\$\$\$\$\$\$\$\$\$\$\$\$\$

\*\*\*\*\*
LAT TOTAL SYSTEM ACCURACY ESTIMATION STATISTICS
\*\*\*\*\*

LOCATION	u +2SIG(m)	2RMS(m)	95P(m)	2SIGUCL(m)
1000FT HAT	20.763	20.188	19.464	273.977
900FT HAT	18.558	17.716	17.846	209.361
800FT HAT	15.381	14.430	15.372	137.061
700FT HAT	12.173	11.299	11.302	82.979
600FT HAT	10.304	9.351	8.701	54.070
500FT HAT	7.339	6.746	7.620	29.091
400FT HAT	5.688	5.285	5.120	18.177
300FT HAT	6.347	5.878	6.095	22.389
200FT HAT	5.127	4.930	5.147	16.271
100FT HAT	4.481	4.350	4.098	12.714
50FT HAT	4.097	4.093	3.966	11.305
AIM POINT	3.683	3.637	3.301	8.920
AP+0.05NM	3.777	3.645	3.391	8.907
AP+0.10NM	3.844	3.669	3.602	8.982
AP+0.15NM	3.952	3.775	4.127	9.513
AP+0.20NM	4.175	3.985	4.308	10.596
AP+0.25NM	4.504	4.235	4.235	11.833
AP+0.30NM	4.050	3.987	4.045	10.715
AP+0.35NM	4.044	3.756	3.725	9.177
AP+0.40NM	3.821	3.449	3.562	7.191
AP+0.45NM	3.468	3.106	3.138	5.479
AP+0.50NM	3.206	2.870	2.850	4.677
AP+0.55NM	2.129	1.964	1.272	25.358

\*\*\*\*\*
LAT TOTAL SYSTEM ACCURACY ESTIMATION MEAN (m)
\*\*\*\*\*

LOCATION	LFTE	LSE	LTSE	LTSEestimate
1000FT HAT	-0.613	0.819	-0.613	0.206
900FT HAT	-0.944	0.645	-0.944	-0.298
800FT HAT	-1.129	0.489	-1.129	-0.640
700FT HAT	-1.083	0.406	-1.083	-0.677
600FT HAT	-1.352	0.366	-1.352	-0.987
500FT HAT	-0.773	-0.080	-0.773	-0.853
400FT HAT	-0.497	0.014	-0.497	-0.483
300FT HAT	-0.586	0.066	-0.586	-0.520
200FT HAT	-0.217	-0.065	-0.217	-0.282
100FT HAT	-0.140	-0.143	-0.140	-0.284
50FT HAT	-0.004	-0.184	-0.004	-0.188
AIM POINT	0.047	-0.177	0.047	-0.130
AP+0.05NM	0.144	-0.167	0.144	-0.023
AP+0.10NM	0.195	-0.156	0.195	0.039
AP+0.15NM	0.197	-0.130	0.197	0.067
AP+0.20NM	0.212	-0.123	0.212	0.089
AP+0.25NM	0.316	-0.282	0.316	0.034
AP+0.30NM	-0.065	-0.101	-0.065	-0.166
AP+0.35NM	-0.356	-0.083	-0.356	-0.439
AP+0.40NM	-0.557	-0.067	-0.557	-0.624
AP+0.45NM	-0.620	-0.058	-0.620	-0.678
AP+0.50NM	-0.584	-0.079	-0.584	-0.663
AP+0.55NM	-0.212	-0.172	-0.212	-0.384

\*\*\*\*\*
LAT TOT SYS ACC ESTIMATE ESTIMATION STATISTICS
\*\*\*\*\*

LOCATION	u +2SIG(m)	2RMS(m)	95P(m)	2SIGUCL(m)
1000FT HAT	19.424	19.222	18.046	249.190
900FT HAT	16.967	16.679	17.092	187.471
800FT HAT	13.742	13.164	14.876	115.819
700FT HAT	10.547	9.963	10.158	65.735
600FT HAT	8.339	7.612	7.686	36.472
500FT HAT	7.299	6.668	7.439	28.039
400FT HAT	5.580	5.187	5.111	17.527
300FT HAT	6.216	5.790	5.919	21.894
200FT HAT	5.141	4.892	4.973	15.933
100FT HAT	4.594	4.348	4.091	12.538
50FT HAT	4.227	4.057	3.892	11.009
AIM POINT	3.714	3.593	3.143	8.666
AP+0.05NM	3.603	3.580	3.441	8.644
AP+0.10NM	3.667	3.629	3.610	8.884
AP+0.15NM	3.826	3.761	4.058	9.535
AP+0.20NM	4.069	3.984	4.280	10.688
AP+0.25NM	4.129	4.095	4.228	11.314
AP+0.30NM	4.140	3.988	4.092	10.658
AP+0.35NM	4.130	3.794	3.691	9.190
AP+0.40NM	3.871	3.478	3.585	7.114
AP+0.45NM	3.525	3.154	3.208	5.477
AP+0.50NM	3.289	2.942	2.960	4.691
AP+0.55NM	2.293	2.058	1.358	25.151

\*\*\*\*\*
LAT TOTAL SYSTEM ACCURACY ESTIMATION STD DEV(m)
\*\*\*\*\*

LOCATION	LFTE	LSE	LTSE	LTSEestimate
1000FT HAT	10.075	2.308	10.075	9.609
900FT HAT	8.807	2.102	8.807	8.334
800FT HAT	7.126	2.075	7.126	6.551
700FT HAT	5.545	1.954	5.545	4.935
600FT HAT	4.476	1.910	4.476	3.676
500FT HAT	3.283	0.317	3.283	3.223
400FT HAT	2.595	0.223	2.595	2.548
300FT HAT	2.880	0.152	2.880	2.848
200FT HAT	2.455	0.110	2.455	2.430
100FT HAT	2.170	0.111	2.170	2.155
50FT HAT	2.047	0.126	2.047	2.020
AIM POINT	1.818	0.143	1.818	1.792
AP+0.05NM	1.817	0.153	1.817	1.790
AP+0.10NM	1.824	0.146	1.824	1.814
AP+0.15NM	1.877	0.126	1.877	1.880
AP+0.20NM	1.981	0.149	1.981	1.990
AP+0.25NM	2.094	0.391	2.094	2.047
AP+0.30NM	1.992	0.328	1.992	1.987
AP+0.35NM	1.844	0.147	1.844	1.845
AP+0.40NM	1.632	0.107	1.632	1.624
AP+0.45NM	1.424	0.092	1.424	1.423
AP+0.50NM	1.311	0.059	1.311	1.313
AP+0.55NM	0.959	0.107	0.959	0.955

\*\*\*\*\*  
\* TOUCHDOWN DISPERSION PERFORMANCE FOR MOS 5 \*  
\*\*\*\*\*

SUCCESSFUL TOUCHDOWNS: 100  
VALID TOUCHDOWNS: 100

MAIN LANDING GEAR LESS THAN 145 FT FROM CL  
TOUCHDOWN AT LEAST 200 FT PAST THRESHOLD

\$\$\$\$\$\$\$\$\$\$\$\$\$\$  
\$ PASS MOS 5 \$  
\$\$\$\$\$\$\$\$\$\$\$\$\$

\*\*\*\*\*  
\* ROLL-OUT CONTROL LTSE ESTIMATION STATISTICS \*  
\*\*\*\*\*

LOCATION |u|+2SIG(m) 2RMS(m) 95P(m) 2SIGUCL(m)

TOUCHDOWN	4.434	4.010	3.652	9.797
TD+0.05NM	4.422	3.991	4.203	9.623
TD+0.10NM	4.594	4.143	4.512	10.318
TD+0.15NM	4.696	4.279	4.451	11.468
TD+0.20NM	4.501	4.288	4.291	12.254
TD+0.25NM	3.915	3.781	3.888	9.590
TD+0.30NM	3.750	3.461	3.814	7.719
TD+0.35NM	3.251	2.954	3.162	5.434
TD+0.40NM	2.771	2.546	2.421	4.255
TD+0.45NM	2.277	2.156	2.273	3.605
TD+0.50NM	1.716	1.608	1.142	17.365

\*\*\*\*\*  
\* LAT AND VRT INTEGRITY PERFORMANCE FOR MOS 6 \*  
\*\*\*\*\*

VERTICAL TIME TO ALARM 2 SECONDS OR LESS  
NUMBER OF MISSED VERTICAL ALARMS: 0  
NUMBER OF FALSE VERTICAL ALARMS: 0

LATERAL TIME TO ALARM 2 SECONDS OR LESS  
NUMBER OF MISSED LATERAL ALARMS: 0  
NUMBER OF FALSE LATERAL ALARMS: 0

\$\$\$\$\$\$\$\$\$\$\$\$\$\$  
\$ PASS MOS 6 \$  
\$\$\$\$\$\$\$\$\$\$\$\$\$

































## **APPENDIX B**

### **NAVIGATION SENSOR ERROR RESULTS**

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\*\*\*\*\*
\* VERTICAL PFE AND CMN PERFORMANCE FOR MOS 1 \*
\*\*\*\*\*

SUCCESSFUL APPROACHES: 50  
 VALID APPROACHES: 100

\*\*\*\*\*
\* FAIL MOS 1 \*
\*\*\*\*\*

\*\*\*\*\*
UNFILTERED VERTICAL ERROR ESTIMATION STATISTICS
\*\*\*\*\*

LOCATION	u +2SIG(m)	2RMS(m)	95P(m)	2SIGUCL(m)
1000FT HAT	15.848	14.259	14.462	120.655
900FT HAT	15.426	13.938	14.226	118.007
800FT HAT	15.256	13.796	13.678	116.025
700FT HAT	15.263	13.779	14.528	114.831
600FT HAT	15.149	13.663	14.974	112.372
500FT HAT	2.623	2.355	1.069	3.245
400FT HAT	0.813	0.921	0.752	0.107
300FT HAT	0.519	0.529	0.446	0.061
200FT HAT	0.424	0.449	0.403	0.036
100FT HAT	0.343	0.360	0.301	0.025
50FT HAT	0.237	0.216	0.220	0.020
AIM POINT	0.237	0.215	0.196	0.020
AP+0.05NM	0.249	0.229	0.233	0.021
AP+0.10NM	0.243	0.230	0.206	0.018
AP+0.15NM	0.305	0.273	0.288	0.039
AP+0.20NM	0.239	0.214	0.238	0.025
AP+0.25NM	0.371	0.336	0.363	0.069
AP+0.30NM	0.290	0.266	0.236	0.028
AP+0.35NM	0.312	0.314	0.255	0.023
AP+0.40NM	0.320	0.296	0.250	0.033
AP+0.45NM	0.302	0.271	0.246	0.044
AP+0.50NM	0.255	0.252	0.232	0.043
AP+0.55NM	0.143	0.177	0.101	0.024

\*\*\*\*\*
VERT CONTROL MOTION NOISE ESTIMATION STATISTICS
\*\*\*\*\*

LOCATION	u +2SIG(m)	2RMS(m)	95P(m)	2SIGUCL(m)
1000FT HAT	0.682	0.674	0.581	0.306
900FT HAT	0.684	0.653	0.538	0.285
800FT HAT	0.582	0.563	0.576	0.213
700FT HAT	0.460	0.444	0.442	0.132
600FT HAT	0.429	0.427	0.405	0.123
500FT HAT	4.796	4.327	5.722	11.293
400FT HAT	0.264	0.263	0.277	0.047
300FT HAT	0.208	0.187	0.184	0.018
200FT HAT	0.103	0.097	0.100	0.006
100FT HAT	0.091	0.090	0.086	0.005
50FT HAT	0.132	0.121	0.110	0.006
AIM POINT	0.118	0.106	0.097	0.006
AP+0.05NM	0.134	0.120	0.093	0.009
AP+0.10NM	0.135	0.123	0.125	0.010
AP+0.15NM	0.164	0.156	0.143	0.016
AP+0.20NM	0.140	0.126	0.115	0.010
AP+0.25NM	0.220	0.218	0.206	0.032
AP+0.30NM	0.230	0.221	0.221	0.015
AP+0.35NM	0.157	0.156	0.129	0.006
AP+0.40NM	0.123	0.115	0.111	0.009
AP+0.45NM	0.167	0.150	0.163	0.013
AP+0.50NM	0.173	0.158	0.150	0.011
AP+0.55NM	0.247	0.245	0.160	0.156

\*\*\*\*\*
VERT PATH FOLLOWING ERROR ESTIMATION STATISTICS
\*\*\*\*\*

LOCATION	u +2SIG(m)	2RMS(m)	95P(m)	2SIGUCL(m)
1000FT HAT	15.591	14.030	14.349	116.886
900FT HAT	15.366	13.875	14.235	116.602
800FT HAT	15.248	13.776	13.788	115.221
700FT HAT	15.226	13.749	14.371	114.482
600FT HAT	15.161	13.674	14.839	112.538
500FT HAT	3.234	3.096	3.338	6.403
400FT HAT	0.756	0.886	0.734	0.082
300FT HAT	0.494	0.549	0.424	0.042
200FT HAT	0.406	0.444	0.387	0.030
100FT HAT	0.329	0.347	0.287	0.022
50FT HAT	0.251	0.241	0.249	0.018
AIM POINT	0.214	0.197	0.184	0.015
AP+0.05NM	0.216	0.200	0.200	0.015
AP+0.10NM	0.214	0.205	0.192	0.013
AP+0.15NM	0.258	0.242	0.239	0.021
AP+0.20NM	0.243	0.219	0.216	0.023
AP+0.25NM	0.241	0.216	0.228	0.027
AP+0.30NM	0.218	0.195	0.184	0.021
AP+0.35NM	0.291	0.284	0.234	0.023
AP+0.40NM	0.303	0.294	0.249	0.025
AP+0.45NM	0.291	0.262	0.240	0.033
AP+0.50NM	0.271	0.248	0.228	0.039
AP+0.55NM	0.243	0.217	0.168	0.256

\*\*\*\*\*
\* LATERAL PFE AND CMN PERFORMANCE FOR MOS 2 \*
\*\*\*\*\*

SUCCESSFUL APPROACHES: 100  
 VALID APPROACHES: 100

\$\$\$\$\$\$\$\$\$\$\$\$\$\$  
 \$ PASS MOS 2 \$  
 \$\$\$\$\$\$\$\$\$\$\$\$\$\$

\*\*\*\*\*
UNFILTERED LATERAL ERROR ESTIMATION STATISTICS
\*\*\*\*\*

LOCATION	$ u  + 2\text{SIG(m)}$	2RMS(m)	95P(m)	2SIGUCL(m)
1000FT HAT	5.435	4.898	4.715	14.377
900FT HAT	4.849	4.397	4.152	11.921
800FT HAT	4.638	4.263	3.985	11.617
700FT HAT	4.315	3.992	3.793	10.307
600FT HAT	4.185	3.889	3.625	9.842
500FT HAT	0.714	0.654	0.782	0.272
400FT HAT	0.460	0.447	0.433	0.134
300FT HAT	0.371	0.332	0.325	0.063
200FT HAT	0.286	0.256	0.258	0.033
100FT HAT	0.365	0.362	0.310	0.033
50FT HAT	0.437	0.447	0.371	0.043
AIM POINT	0.463	0.455	0.461	0.055
AP+0.05NM	0.473	0.453	0.518	0.063
AP+0.10NM	0.448	0.428	0.432	0.058
AP+0.15NM	0.382	0.362	0.411	0.043
AP+0.20NM	0.422	0.387	0.437	0.060
AP+0.25NM	1.064	0.964	1.070	0.413
AP+0.30NM	0.757	0.686	0.241	0.290
AP+0.35NM	0.378	0.338	0.293	0.058
AP+0.40NM	0.282	0.253	0.150	0.031
AP+0.45NM	0.243	0.218	0.130	0.023
AP+0.50NM	0.196	0.197	0.165	0.009
AP+0.55NM	0.386	0.405	0.302	0.316

\*\*\*\*\*
LAT CONTROL MOTION NOISE ESTIMATION STATISTICS
\*\*\*\*\*

LOCATION	$ u  + 2\text{SIG(m)}$	2RMS(m)	95P(m)	2SIGUCL(m)
1000FT HAT	0.478	0.455	0.446	0.138
900FT HAT	0.460	0.414	0.404	0.103
800FT HAT	0.449	0.402	0.366	0.092
700FT HAT	0.376	0.340	0.327	0.071
600FT HAT	0.290	0.289	0.303	0.056
500FT HAT	1.863	1.728	2.064	1.939
400FT HAT	0.334	0.313	0.303	0.064
300FT HAT	0.220	0.204	0.196	0.027
200FT HAT	0.193	0.174	0.152	0.014
100FT HAT	0.142	0.127	0.135	0.009
50FT HAT	0.186	0.170	0.164	0.018
AIM POINT	0.206	0.194	0.185	0.025
AP+0.05NM	0.224	0.211	0.227	0.029
AP+0.10NM	0.222	0.205	0.245	0.027
AP+0.15NM	0.203	0.183	0.194	0.020
AP+0.20NM	0.191	0.173	0.177	0.018
AP+0.25NM	0.736	0.660	0.846	0.250
AP+0.30NM	0.481	0.436	0.358	0.117
AP+0.35NM	0.264	0.236	0.237	0.030
AP+0.40NM	0.338	0.306	0.193	0.057
AP+0.45NM	0.226	0.203	0.124	0.024
AP+0.50NM	0.174	0.169	0.083	0.019
AP+0.55NM	0.249	0.223	0.171	0.282

\*\*\*\*\*
LAT PATH FOLLOWING ERROR ESTIMATION STATISTICS
\*\*\*\*\*

LOCATION	$ u  + 2\text{SIG(m)}$	2RMS(m)	95P(m)	2SIGUCL(m)
1000FT HAT	3.419	3.085	3.042	5.739
900FT HAT	4.953	4.476	4.151	12.187
800FT HAT	4.668	4.259	3.947	11.402
700FT HAT	4.388	4.039	3.797	10.461
600FT HAT	4.195	3.903	3.724	9.934
500FT HAT	1.729	1.675	1.909	1.885
400FT HAT	0.330	0.315	0.302	0.066
300FT HAT	0.297	0.266	0.239	0.040
200FT HAT	0.214	0.196	0.193	0.025
100FT HAT	0.301	0.304	0.263	0.021
50FT HAT	0.370	0.395	0.348	0.027
AIM POINT	0.464	0.479	0.454	0.047
AP+0.05NM	0.441	0.454	0.407	0.043
AP+0.10NM	0.428	0.435	0.437	0.042
AP+0.15NM	0.400	0.401	0.405	0.038
AP+0.20NM	0.377	0.371	0.411	0.037
AP+0.25NM	0.423	0.397	0.507	0.054
AP+0.30NM	0.613	0.561	0.566	0.129
AP+0.35NM	0.620	0.556	0.340	0.154
AP+0.40NM	0.461	0.414	0.254	0.084
AP+0.45NM	0.317	0.288	0.217	0.036
AP+0.50NM	0.245	0.226	0.145	0.020
AP+0.55NM	0.132	0.208	0.114	0.006

\*\*\*\*\*  
\*LAT AND VERT INTEGRITY PERFORMANCE FOR MOS 6 \*  
\*\*\*\*\*

VERTICAL TIME TO ALARM 2 SECONDS OR LESS  
NUMBER OF MISSED VERTICAL ALARMS: 0  
NUMBER OF FALSE VERTICAL ALARMS: 0

LATERAL TIME TO ALARM 2 SECONDS OR LESS  
NUMBER OF MISSED LATERAL ALARMS: 0  
NUMBER OF FALSE LATERAL ALARMS: 0

\$\$\$\$\$\$\$\$\$\$\$\$\$\$  
\$ PASS MOS 6 \$  
\$\$\$\$\$\$\$\$\$\$\$\$\$



































## **APPENDIX C**

### **INDIVIDUAL APPROACH AND AUTOLANDING RESULTS**

INTENTIONALLY  
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APPROACH #: SU428408  
START TIME: 236360.999  
STOP TIME: 236466.999

MINIMUM HDOP: 2.3  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 4.0  
MAXIMUM VDOP: 4.1  
AVERAGE VDOP: 4.1

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.225  
NRP Yrcs MEAN DIFFERENCE (m): -0.106  
NRP Zrcs MEAN DIFFERENCE (m): 0.160

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.271  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.376  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.249

NRP Xrcs 2-RMS DIFFERENCE (m): 0.524  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.432  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.406

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 128.944  
LGRP Yrcs POSITION (m): 2.949

APPROACH #: SU428408  
START TIME: 236360.999  
STOP TIME: 236466.999

MINIMUM HDOP: 2.3  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 4.0  
MAXIMUM VDOP: 4.1  
AVERAGE VDOP: 4.1

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.225  
NRP Yrcs MEAN DIFFERENCE (m): -0.106  
NRP Zrcs MEAN DIFFERENCE (m): 0.160

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.271  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.376  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.249

NRP Xrcs 2-RMS DIFFERENCE (m): 0.524  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.432  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.406

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 128.944  
LGRP Yrcs POSITION (m): 2.949







APPROACH #: SU428410  
START TIME: 237055.749  
STOP TIME: 237163.249

MINIMUM HDOP: 2.2  
MAXIMUM HDOP: 2.3  
AVERAGE HDOP: 2.3

MINIMUM VDOP: 3.6  
MAXIMUM VDOP: 3.6  
AVERAGE VDOP: 3.6

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.499  
NRP Yrcs MEAN DIFFERENCE (m): -0.052  
NRP Zrcs MEAN DIFFERENCE (m): 0.130

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.292  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.221  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.237

NRP Xrcs 2-RMS DIFFERENCE (m): 1.040  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.244  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.351

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 101.453  
LGRP Yrcs POSITION (m): -0.294

APPROACH #: SU428410  
START TIME: 237055.749  
STOP TIME: 237163.249

MINIMUM HDOP: 2.2  
MAXIMUM HDOP: 2.3  
AVERAGE HDOP: 2.3

MINIMUM VDOP: 3.6  
MAXIMUM VDOP: 3.6  
AVERAGE VDOP: 3.6

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.499  
NRP Yrcs MEAN DIFFERENCE (m): -0.052  
NRP Zrcs MEAN DIFFERENCE (m): 0.130

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.292  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.221  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.237

NRP Xrcs 2-RMS DIFFERENCE (m): 1.040  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.244  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.351

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 101.453  
LGRP Yrcs POSITION (m): -0.294







APPROACH #: SU428412  
START TIME: 237524.749  
STOP TIME: 237633.749

MINIMUM HDOP: 2.2  
MAXIMUM HDOP: 2.2  
AVERAGE HDOP: 2.2

MINIMUM VDOP: 3.4  
MAXIMUM VDOP: 3.4  
AVERAGE VDOP: 3.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.433  
NRP Yrcs MEAN DIFFERENCE (m): -0.098  
NRP Zrcs MEAN DIFFERENCE (m): 0.059

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.173  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.259  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.241

NRP Xrcs 2-RMS DIFFERENCE (m): 0.884  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.325  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.268

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 111.325  
LGRP Yrcs POSITION (m): 2.476

APPROACH #: SU428412  
START TIME: 237524.749  
STOP TIME: 237633.749

MINIMUM HDOP: 2.2  
MAXIMUM HDOP: 2.2  
AVERAGE HDOP: 2.2

MINIMUM VDOP: 3.4  
MAXIMUM VDOP: 3.4  
AVERAGE VDOP: 3.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.433  
NRP Yrcs MEAN DIFFERENCE (m): -0.098  
NRP Zrcs MEAN DIFFERENCE (m): 0.059

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.173  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.259  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.241

NRP Xrcs 2-RMS DIFFERENCE (m): 0.884  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.325  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.268

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 111.325  
LGRP Yrcs POSITION (m): 2.476







APPROACH #: SU428414  
START TIME: 237954.749  
STOP TIME: 238064.249

MINIMUM HDOP: 2.3  
MAXIMUM HDOP: 2.3  
AVERAGE HDOP: 2.3

MINIMUM VDOP: 4.4  
MAXIMUM VDOP: 4.5  
AVERAGE VDOP: 4.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.471  
NRP Yrcs MEAN DIFFERENCE (m): -0.134  
NRP Zrcs MEAN DIFFERENCE (m): 0.067

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.439  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.199  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.252

NRP Xrcs 2-RMS DIFFERENCE (m): 1.038  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.333  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.285

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 136.297  
LGRP Yrcs POSITION (m): 0.907

APPROACH #: SU428414  
START TIME: 237954.749  
STOP TIME: 238064.249

MINIMUM HDOP: 2.3  
MAXIMUM HDOP: 2.3  
AVERAGE HDOP: 2.3

MINIMUM VDOP: 4.4  
MAXIMUM VDOP: 4.5  
AVERAGE VDOP: 4.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.471  
NRP Yrcs MEAN DIFFERENCE (m): -0.134  
NRP Zrcs MEAN DIFFERENCE (m): 0.067

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.439  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.199  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.252

NRP Xrcs 2-RMS DIFFERENCE (m): 1.038  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.333  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.285

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 136.297  
LGRP Yrcs POSITION (m): 0.907







APPROACH #: SU428416  
START TIME: 238374.499  
STOP TIME: 238482.749

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 4.7  
MAXIMUM VDOP: 4.8  
AVERAGE VDOP: 4.7

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.456  
NRP Yrcs MEAN DIFFERENCE (m): -0.095  
NRP Zrcs MEAN DIFFERENCE (m): 0.098

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.277  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.098  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.262

NRP Xrcs 2-RMS DIFFERENCE (m): 0.953  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.214  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.327

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 108.756  
LGRP Yrcs POSITION (m): -2.461

APPROACH #: SU428416  
START TIME: 238374.499  
STOP TIME: 238482.749

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 4.7  
MAXIMUM VDOP: 4.8  
AVERAGE VDOP: 4.7

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.456  
NRP Yrcs MEAN DIFFERENCE (m): -0.095  
NRP Zrcs MEAN DIFFERENCE (m): 0.098

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.277  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.098  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.262

NRP Xrcs 2-RMS DIFFERENCE (m): 0.953  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.214  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.327

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 108.756  
LGRP Yrcs POSITION (m): -2.461







APPROACH #: SU428418  
START TIME: 238819.749  
STOP TIME: 238929.249

MINIMUM HDOP: 2.6  
MAXIMUM HDOP: 2.6  
AVERAGE HDOP: 2.6

MINIMUM VDOP: 5.1  
MAXIMUM VDOP: 5.2  
AVERAGE VDOP: 5.1

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.642  
NRP Yrcs MEAN DIFFERENCE (m): -0.534  
NRP Zrcs MEAN DIFFERENCE (m): 0.083

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.589  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 1.522  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.266

NRP Xrcs 2-RMS DIFFERENCE (m): 1.413  
NRP Yrcs 2-RMS DIFFERENCE (m): 1.859  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.313

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 153.172  
LGRP Yrcs POSITION (m): 0.038

APPROACH #: SU428418  
START TIME: 238819.749  
STOP TIME: 238929.249

MINIMUM HDOP: 2.6  
MAXIMUM HDOP: 2.6  
AVERAGE HDOP: 2.6

MINIMUM VDOP: 5.1  
MAXIMUM VDOP: 5.2  
AVERAGE VDOP: 5.1

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.642  
NRP Yrcs MEAN DIFFERENCE (m): -0.534  
NRP Zrcs MEAN DIFFERENCE (m): 0.083

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.589  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 1.522  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.266

NRP Xrcs 2-RMS DIFFERENCE (m): 1.413  
NRP Yrcs 2-RMS DIFFERENCE (m): 1.859  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.313

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 153.172  
LGRP Yrcs POSITION (m): 0.038







APPROACH #: SU428420  
START TIME: 239253.749  
STOP TIME: 239365.499

MINIMUM HDOP: 2.9  
MAXIMUM HDOP: 3.0  
AVERAGE HDOP: 2.9

MINIMUM VDOP: 5.6  
MAXIMUM VDOP: 5.8  
AVERAGE VDOP: 5.7

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.415  
NRP Yrcs MEAN DIFFERENCE (m): -0.073  
NRP Zrcs MEAN DIFFERENCE (m): 0.119

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.220  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.107  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.263

NRP Xrcs 2-RMS DIFFERENCE (m): 0.858  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.181  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.354

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 130.230  
LGRP Yrcs POSITION (m): 0.970

APPROACH #: SU428420  
START TIME: 239253.749  
STOP TIME: 239365.499

MINIMUM HDOP: 2.9  
MAXIMUM HDOP: 3.0  
AVERAGE HDOP: 2.9

MINIMUM VDOP: 5.6  
MAXIMUM VDOP: 5.8  
AVERAGE VDOP: 5.7

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.415  
NRP Yrcs MEAN DIFFERENCE (m): -0.073  
NRP Zrcs MEAN DIFFERENCE (m): 0.119

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.220  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.107  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.263

NRP Xrcs 2-RMS DIFFERENCE (m): 0.858  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.181  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.354

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 130.230  
LGRP Yrcs POSITION (m): 0.970







APPROACH #: SU428422  
START TIME: 239663.999  
STOP TIME: 239775.249

MINIMUM HDOP: 3.2  
MAXIMUM HDOP: 3.3  
AVERAGE HDOP: 3.3

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.499  
NRP Yrcs MEAN DIFFERENCE (m): -0.103  
NRP Zrcs MEAN DIFFERENCE (m): 0.005

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.251  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.127  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.265

NRP Xrcs 2-RMS DIFFERENCE (m): 1.029  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.243  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.265

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 278.237  
LGRP Yrcs POSITION (m): -0.682

APPROACH #: SU428422  
START TIME: 239663.999  
STOP TIME: 239775.249

MINIMUM HDOP: 3.2  
MAXIMUM HDOP: 3.3  
AVERAGE HDOP: 3.3

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.499  
NRP Yrcs MEAN DIFFERENCE (m): -0.103  
NRP Zrcs MEAN DIFFERENCE (m): 0.005

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.251  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.127  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.265

NRP Xrcs 2-RMS DIFFERENCE (m): 1.029  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.243  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.265

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 278.237  
LGRP Yrcs POSITION (m): -0.682







APPROACH #: SU428424  
START TIME: 240104.249  
STOP TIME: 240216.499

MINIMUM HDOP: 3.0  
MAXIMUM HDOP: 3.0  
AVERAGE HDOP: 3.0

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.422  
NRP Yrcs MEAN DIFFERENCE (m): -0.053  
NRP Zrcs MEAN DIFFERENCE (m): -0.032

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.273  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.158  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.219

NRP Xrcs 2-RMS DIFFERENCE (m): 0.888  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.191  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.228

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 111.021  
LGRP Yrcs POSITION (m): -1.754

APPROACH #: SU428424  
START TIME: 240104.249  
STOP TIME: 240216.499

MINIMUM HDOP: 3.0  
MAXIMUM HDOP: 3.0  
AVERAGE HDOP: 3.0

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.422  
NRP Yrcs MEAN DIFFERENCE (m): -0.053  
NRP Zrcs MEAN DIFFERENCE (m): -0.032

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.273  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.158  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.219

NRP Xrcs 2-RMS DIFFERENCE (m): 0.888  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.191  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.228

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 111.021  
LGRP Yrcs POSITION (m): -1.754







APPROACH #: SU428426  
START TIME: 240510.249  
STOP TIME: 240625.749

MINIMUM HDOP: 2.8  
MAXIMUM HDOP: 2.9  
AVERAGE HDOP: 2.8

MINIMUM VDOP: 5.2  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.532  
NRP Yrcs MEAN DIFFERENCE (m): -0.134  
NRP Zrcs MEAN DIFFERENCE (m): 0.094

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.309  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.317  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.211

NRP Xrcs 2-RMS DIFFERENCE (m): 1.107  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.415  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.282

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 206.503  
LGRP Yrcs POSITION (m): 0.040

APPROACH #: SU428426  
START TIME: 240510.249  
STOP TIME: 240625.749

MINIMUM HDOP: 2.8  
MAXIMUM HDOP: 2.9  
AVERAGE HDOP: 2.8

MINIMUM VDOP: 5.2  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.532  
NRP Yrcs MEAN DIFFERENCE (m): -0.134  
NRP Zrcs MEAN DIFFERENCE (m): 0.094

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.309  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.317  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.211

NRP Xrcs 2-RMS DIFFERENCE (m): 1.107  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.415  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.282

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 206.503  
LGRP Yrcs POSITION (m): 0.040







APPROACH #: SU428430  
START TIME: 241501.749  
STOP TIME: 241613.499

MINIMUM HDOP: 2.7  
MAXIMUM HDOP: 2.8  
AVERAGE HDOP: 2.7

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.4  
AVERAGE VDOP: 5.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.497  
NRP Yrcs MEAN DIFFERENCE (m): -0.207  
NRP Zrcs MEAN DIFFERENCE (m): 0.069

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.316  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.363  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.236

NRP Xrcs 2-RMS DIFFERENCE (m): 1.042  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.551  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.273

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 214.023  
LGRP Yrcs POSITION (m): 0.650

APPROACH #: SU428430  
START TIME: 241501.749  
STOP TIME: 241613.499

MINIMUM HDOP: 2.7  
MAXIMUM HDOP: 2.8  
AVERAGE HDOP: 2.7

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.4  
AVERAGE VDOP: 5.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.497  
NRP Yrcs MEAN DIFFERENCE (m): -0.207  
NRP Zrcs MEAN DIFFERENCE (m): 0.069

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.316  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.363  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.236

NRP Xrcs 2-RMS DIFFERENCE (m): 1.042  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.551  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.273

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 214.023  
LGRP Yrcs POSITION (m): 0.650







APPROACH #: SU428432  
START TIME: 241953.999  
STOP TIME: 242072.499

MINIMUM HDOP: 2.8  
MAXIMUM HDOP: 2.9  
AVERAGE HDOP: 2.9

MINIMUM VDOP: 5.5  
MAXIMUM VDOP: 5.5  
AVERAGE VDOP: 5.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.448  
NRP Yrcs MEAN DIFFERENCE (m): -0.024  
NRP Zrcs MEAN DIFFERENCE (m): 0.054

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.282  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.112  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.293

NRP Xrcs 2-RMS DIFFERENCE (m): 0.939  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.122  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.312

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 142.172  
LGRP Yrcs POSITION (m): 3.233

APPROACH #: SU428432  
START TIME: 241953.999  
STOP TIME: 242072.499

MINIMUM HDOP: 2.8  
MAXIMUM HDOP: 2.9  
AVERAGE HDOP: 2.9

MINIMUM VDOP: 5.5  
MAXIMUM VDOP: 5.5  
AVERAGE VDOP: 5.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.448  
NRP Yrcs MEAN DIFFERENCE (m): -0.024  
NRP Zrcs MEAN DIFFERENCE (m): 0.054

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.282  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.112  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.293

NRP Xrcs 2-RMS DIFFERENCE (m): 0.939  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.122  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.312

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 142.172  
LGRP Yrcs POSITION (m): 3.233







APPROACH #: SU428434  
START TIME: 242365.249  
STOP TIME: 242481.749

MINIMUM HDOP: 3.0  
MAXIMUM HDOP: 3.0  
AVERAGE HDOP: 3.0

MINIMUM VDOP: 5.6  
MAXIMUM VDOP: 5.7  
AVERAGE VDOP: 5.6

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.472  
NRP Yrcs MEAN DIFFERENCE (m): -0.184  
NRP Zrcs MEAN DIFFERENCE (m): 0.053

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.261  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.287  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.267

NRP Xrcs 2-RMS DIFFERENCE (m): 0.979  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.467  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.287

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 229.074  
LGRP Yrcs POSITION (m): -0.939

APPROACH #: SU428434  
START TIME: 242365.249  
STOP TIME: 242481.749

MINIMUM HDOP: 3.0  
MAXIMUM HDOP: 3.0  
AVERAGE HDOP: 3.0

MINIMUM VDOP: 5.6  
MAXIMUM VDOP: 5.7  
AVERAGE VDOP: 5.6

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.472  
NRP Yrcs MEAN DIFFERENCE (m): -0.184  
NRP Zrcs MEAN DIFFERENCE (m): 0.053

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.261  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.287  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.267

NRP Xrcs 2-RMS DIFFERENCE (m): 0.979  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.467  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.287

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 229.074  
LGRP Yrcs POSITION (m): -0.939







APPROACH #: SU428436  
START TIME: 242738.249  
STOP TIME: 242852.249

MINIMUM HDOP: 3.2  
MAXIMUM HDOP: 3.2  
AVERAGE HDOP: 3.2

MINIMUM VDOP: 5.9  
MAXIMUM VDOP: 6.0  
AVERAGE VDOP: 5.9

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.547  
NRP Yrcs MEAN DIFFERENCE (m): -0.091  
NRP Zrcs MEAN DIFFERENCE (m): 0.046

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.303  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.412  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.344

NRP Xrcs 2-RMS DIFFERENCE (m): 1.135  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.450  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.357

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 206.275  
LGRP Yrcs POSITION (m): -0.372

APPROACH #: SU428436  
START TIME: 242738.249  
STOP TIME: 242852.249

MINIMUM HDOP: 3.2  
MAXIMUM HDOP: 3.2  
AVERAGE HDOP: 3.2

MINIMUM VDOP: 5.9  
MAXIMUM VDOP: 6.0  
AVERAGE VDOP: 5.9

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.547  
NRP Yrcs MEAN DIFFERENCE (m): -0.091  
NRP Zrcs MEAN DIFFERENCE (m): 0.046

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.303  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.412  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.344

NRP Xrcs 2-RMS DIFFERENCE (m): 1.135  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.450  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.357

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 206.275  
LGRP Yrcs POSITION (m): -0.372







APPROACH #: SU428438  
START TIME: 243149.749  
STOP TIME: 243268.999

MINIMUM HDOP: 3.4  
MAXIMUM HDOP: 3.5  
AVERAGE HDOP: 3.4

MINIMUM VDOP: 6.4  
MAXIMUM VDOP: 6.6  
AVERAGE VDOP: 6.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.492  
NRP Yrcs MEAN DIFFERENCE (m): -0.038  
NRP Zrcs MEAN DIFFERENCE (m): -0.061

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.243  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.193  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.284

NRP Xrcs 2-RMS DIFFERENCE (m): 1.014  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.208  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.309

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 196.259  
LGRP Yrcs POSITION (m): -1.026

APPROACH #: SU428438  
START TIME: 243149.749  
STOP TIME: 243268.999

MINIMUM HDOP: 3.4  
MAXIMUM HDOP: 3.5  
AVERAGE HDOP: 3.4

MINIMUM VDOP: 6.4  
MAXIMUM VDOP: 6.6  
AVERAGE VDOP: 6.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.492  
NRP Yrcs MEAN DIFFERENCE (m): -0.038  
NRP Zrcs MEAN DIFFERENCE (m): -0.061

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.243  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.193  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.284

NRP Xrcs 2-RMS DIFFERENCE (m): 1.014  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.208  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.309

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 196.259  
LGRP Yrcs POSITION (m): -1.026







APPROACH #: SU428440  
START TIME: 243585.749  
STOP TIME: 243702.999

MINIMUM HDOP: 3.7  
MAXIMUM HDOP: 3.7  
AVERAGE HDOP: 3.7

MINIMUM VDOP: 7.2  
MAXIMUM VDOP: 7.5  
AVERAGE VDOP: 7.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.557  
NRP Yrcs MEAN DIFFERENCE (m): -0.136  
NRP Zrcs MEAN DIFFERENCE (m): 0.054

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.325  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.243  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.285

NRP Xrcs 2-RMS DIFFERENCE (m): 1.161  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.364  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.304

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 195.295  
LGRP Yrcs POSITION (m): 0.297

APPROACH #: SU428440  
START TIME: 243585.749  
STOP TIME: 243702.999

MINIMUM HDOP: 3.7  
MAXIMUM HDOP: 3.7  
AVERAGE HDOP: 3.7

MINIMUM VDOP: 7.2  
MAXIMUM VDOP: 7.5  
AVERAGE VDOP: 7.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.557  
NRP Yrcs MEAN DIFFERENCE (m): -0.136  
NRP Zrcs MEAN DIFFERENCE (m): 0.054

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.325  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.243  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.285

NRP Xrcs 2-RMS DIFFERENCE (m): 1.161  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.364  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.304

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 195.295  
LGRP Yrcs POSITION (m): 0.297







APPROACH #: SU428442  
START TIME: 243992.999  
STOP TIME: 244106.749

MINIMUM HDOP: 3.9  
MAXIMUM HDOP: 4.0  
AVERAGE HDOP: 3.9

MINIMUM VDOP: 8.3  
MAXIMUM VDOP: 8.6  
AVERAGE VDOP: 8.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.554  
NRP Yrcs MEAN DIFFERENCE (m): -0.148  
NRP Zrcs MEAN DIFFERENCE (m): -0.078

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.369  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.278  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.255

NRP Xrcs 2-RMS DIFFERENCE (m): 1.168  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.406  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.299

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 156.582  
LGRP Yrcs POSITION (m): -0.056

APPROACH #: SU428442  
START TIME: 243992.999  
STOP TIME: 244106.749

MINIMUM HDOP: 3.9  
MAXIMUM HDOP: 4.0  
AVERAGE HDOP: 3.9

MINIMUM VDOP: 8.3  
MAXIMUM VDOP: 8.6  
AVERAGE VDOP: 8.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.554  
NRP Yrcs MEAN DIFFERENCE (m): -0.148  
NRP Zrcs MEAN DIFFERENCE (m): -0.078

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.369  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.278  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.255

NRP Xrcs 2-RMS DIFFERENCE (m): 1.168  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.406  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.299

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 156.582  
LGRP Yrcs POSITION (m): -0.056







APPROACH #: SU428444  
START TIME: 244410.249  
STOP TIME: 244526.999

MINIMUM HDOP: 4.1  
MAXIMUM HDOP: 4.1  
AVERAGE HDOP: 4.1

MINIMUM VDOP: 9.5  
MAXIMUM VDOP: 9.7  
AVERAGE VDOP: 9.6

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.545  
NRP Yrcs MEAN DIFFERENCE (m): -0.062  
NRP Zrcs MEAN DIFFERENCE (m): -0.001

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.333  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.250  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.290

NRP Xrcs 2-RMS DIFFERENCE (m): 1.140  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.279  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.290

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 205.175  
LGRP Yrcs POSITION (m): -2.959

APPROACH #: SU428444  
START TIME: 244410.249  
STOP TIME: 244526.999

MINIMUM HDOP: 4.1  
MAXIMUM HDOP: 4.1  
AVERAGE HDOP: 4.1

MINIMUM VDOP: 9.5  
MAXIMUM VDOP: 9.7  
AVERAGE VDOP: 9.6

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.545  
NRP Yrcs MEAN DIFFERENCE (m): -0.062  
NRP Zrcs MEAN DIFFERENCE (m): -0.001

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.333  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.250  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.290

NRP Xrcs 2-RMS DIFFERENCE (m): 1.140  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.279  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.290

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 205.175  
LGRP Yrcs POSITION (m): -2.959







APPROACH #: SU428446  
START TIME: 244827.999  
STOP TIME: 244944.249

MINIMUM HDOP: 3.2  
MAXIMUM HDOP: 3.2  
AVERAGE HDOP: 3.2

MINIMUM VDOP: 10.3  
MAXIMUM VDOP: 10.4  
AVERAGE VDOP: 10.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.562  
NRP Yrcs MEAN DIFFERENCE (m): -0.209  
NRP Zrcs MEAN DIFFERENCE (m): 0.123

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.423  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.362  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.361

NRP Xrcs 2-RMS DIFFERENCE (m): 1.202  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.553  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.436

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 151.191  
LGRP Yrcs POSITION (m): 3.015

APPROACH #: SU428446  
START TIME: 244827.999  
STOP TIME: 244944.249

MINIMUM HDOP: 3.2  
MAXIMUM HDOP: 3.2  
AVERAGE HDOP: 3.2

MINIMUM VDOP: 10.3  
MAXIMUM VDOP: 10.4  
AVERAGE VDOP: 10.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.562  
NRP Yrcs MEAN DIFFERENCE (m): -0.209  
NRP Zrcs MEAN DIFFERENCE (m): 0.123

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.423  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.362  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.361

NRP Xrcs 2-RMS DIFFERENCE (m): 1.202  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.553  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.436

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 151.191  
LGRP Yrcs POSITION (m): 3.015







APPROACH #: SU428448  
START TIME: 245219.999  
STOP TIME: 245342.249

MINIMUM HDOP: 3.0  
MAXIMUM HDOP: 3.1  
AVERAGE HDOP: 3.1

MINIMUM VDOP: 10.1  
MAXIMUM VDOP: 10.3  
AVERAGE VDOP: 10.2

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.514  
NRP Yrcs MEAN DIFFERENCE (m): -0.185  
NRP Zrcs MEAN DIFFERENCE (m): 0.212

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.262  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.298  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.191

NRP Xrcs 2-RMS DIFFERENCE (m): 1.061  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.475  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.466

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 297.099  
LGRP Yrcs POSITION (m): 0.090

APPROACH #: SU428448  
START TIME: 245219.999  
STOP TIME: 245342.249

MINIMUM HDOP: 3.0  
MAXIMUM HDOP: 3.1  
AVERAGE HDOP: 3.1

MINIMUM VDOP: 10.1  
MAXIMUM VDOP: 10.3  
AVERAGE VDOP: 10.2

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.514  
NRP Yrcs MEAN DIFFERENCE (m): -0.185  
NRP Zrcs MEAN DIFFERENCE (m): 0.212

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.262  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.298  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.191

NRP Xrcs 2-RMS DIFFERENCE (m): 1.061  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.475  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.466

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 297.099  
LGRP Yrcs POSITION (m): 0.090







APPROACH #: SU428452  
START TIME: 246565.499  
STOP TIME: 246679.499

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 6.7  
MAXIMUM VDOP: 7.0  
AVERAGE VDOP: 6.9

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.496  
NRP Yrcs MEAN DIFFERENCE (m): -0.175  
NRP Zrcs MEAN DIFFERENCE (m): -0.050

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.264  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.250  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.347

NRP Xrcs 2-RMS DIFFERENCE (m): 1.027  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.431  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.361

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 144.629  
LGRP Yrcs POSITION (m): 0.942

APPROACH #: SU428452  
START TIME: 246565.499  
STOP TIME: 246679.499

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 6.7  
MAXIMUM VDOP: 7.0  
AVERAGE VDOP: 6.9

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.496  
NRP Yrcs MEAN DIFFERENCE (m): -0.175  
NRP Zrcs MEAN DIFFERENCE (m): -0.050

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.264  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.250  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.347

NRP Xrcs 2-RMS DIFFERENCE (m): 1.027  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.431  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.361

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 144.629  
LGRP Yrcs POSITION (m): 0.942







APPROACH #: SU428454  
START TIME: 246991.999  
STOP TIME: 247104.999

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 5.7  
MAXIMUM VDOP: 5.9  
AVERAGE VDOP: 5.8

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.385  
NRP Yrcs MEAN DIFFERENCE (m): -0.234  
NRP Zrcs MEAN DIFFERENCE (m): 0.067

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.245  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.289  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.248

NRP Xrcs 2-RMS DIFFERENCE (m): 0.807  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.550  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.281

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 81.102  
LGRP Yrcs POSITION (m): 2.946

APPROACH #: SU428454  
START TIME: 246991.999  
STOP TIME: 247104.999

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 5.7  
MAXIMUM VDOP: 5.9  
AVERAGE VDOP: 5.8

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.385  
NRP Yrcs MEAN DIFFERENCE (m): -0.234  
NRP Zrcs MEAN DIFFERENCE (m): 0.067

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.245  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.289  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.248

NRP Xrcs 2-RMS DIFFERENCE (m): 0.807  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.550  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.281

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 81.102  
LGRP Yrcs POSITION (m): 2.946







APPROACH #: SU428456  
START TIME: 247426.749  
STOP TIME: 247542.249

MINIMUM HDOP: 2.5  
MAXIMUM HDOP: 2.5  
AVERAGE HDOP: 2.5

MINIMUM VDOP: 4.7  
MAXIMUM VDOP: 5.0  
AVERAGE VDOP: 4.9

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.462  
NRP Yrcs MEAN DIFFERENCE (m): -0.135  
NRP Zrcs MEAN DIFFERENCE (m): 0.003

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.370  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.215  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.272

NRP Xrcs 2-RMS DIFFERENCE (m): 0.995  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.345  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.272

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 170.414  
LGRP Yrcs POSITION (m): 1.619

APPROACH #: SU428456  
START TIME: 247426.749  
STOP TIME: 247542.249

MINIMUM HDOP: 2.5  
MAXIMUM HDOP: 2.5  
AVERAGE HDOP: 2.5

MINIMUM VDOP: 4.7  
MAXIMUM VDOP: 5.0  
AVERAGE VDOP: 4.9

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.462  
NRP Yrcs MEAN DIFFERENCE (m): -0.135  
NRP Zrcs MEAN DIFFERENCE (m): 0.003

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.370  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.215  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.272

NRP Xrcs 2-RMS DIFFERENCE (m): 0.995  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.345  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.272

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 170.414  
LGRP Yrcs POSITION (m): 1.619







APPROACH #: SU428458  
START TIME: 247845.999  
STOP TIME: 247959.749

MINIMUM HDOP: 1.9  
MAXIMUM HDOP: 2.0  
AVERAGE HDOP: 1.9

MINIMUM VDOP: 3.6  
MAXIMUM VDOP: 3.7  
AVERAGE VDOP: 3.7

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.513  
NRP Yrcs MEAN DIFFERENCE (m): -0.123  
NRP Zrcs MEAN DIFFERENCE (m): 0.056

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.337  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.151  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.288

NRP Xrcs 2-RMS DIFFERENCE (m): 1.079  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.289  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.309

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 194.833  
LGRP Yrcs POSITION (m): 1.500

APPROACH #: SU428458  
START TIME: 247845.999  
STOP TIME: 247959.749

MINIMUM HDOP: 1.9  
MAXIMUM HDOP: 2.0  
AVERAGE HDOP: 1.9

MINIMUM VDOP: 3.6  
MAXIMUM VDOP: 3.7  
AVERAGE VDOP: 3.7

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.513  
NRP Yrcs MEAN DIFFERENCE (m): -0.123  
NRP Zrcs MEAN DIFFERENCE (m): 0.056

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.337  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.151  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.288

NRP Xrcs 2-RMS DIFFERENCE (m): 1.079  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.289  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.309

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 194.833  
LGRP Yrcs POSITION (m): 1.500







APPROACH #: SU428460  
START TIME: 248254.249  
STOP TIME: 248370.249

MINIMUM HDOP: 2.1  
MAXIMUM HDOP: 2.1  
AVERAGE HDOP: 2.1

MINIMUM VDOP: 3.4  
MAXIMUM VDOP: 3.5  
AVERAGE VDOP: 3.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.516  
NRP Yrcs MEAN DIFFERENCE (m): 0.022  
NRP Zrcs MEAN DIFFERENCE (m): 0.008

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.179  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.129  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.282

NRP Xrcs 2-RMS DIFFERENCE (m): 1.047  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.137  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.282

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 256.232  
LGRP Yrcs POSITION (m): 0.259

APPROACH #: SU428460  
START TIME: 248254.249  
STOP TIME: 248370.249

MINIMUM HDOP: 2.1  
MAXIMUM HDOP: 2.1  
AVERAGE HDOP: 2.1

MINIMUM VDOP: 3.4  
MAXIMUM VDOP: 3.5  
AVERAGE VDOP: 3.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.516  
NRP Yrcs MEAN DIFFERENCE (m): 0.022  
NRP Zrcs MEAN DIFFERENCE (m): 0.008

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.179  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.129  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.282

NRP Xrcs 2-RMS DIFFERENCE (m): 1.047  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.137  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.282

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 256.232  
LGRP Yrcs POSITION (m): 0.259







APPROACH #: SU428462  
START TIME: 248668.249  
STOP TIME: 248781.999

MINIMUM HDOP: 5.5  
MAXIMUM HDOP: 6.4  
AVERAGE HDOP: 5.9

MINIMUM VDOP: 13.2  
MAXIMUM VDOP: 15.9  
AVERAGE VDOP: 14.6

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.617  
NRP Yrcs MEAN DIFFERENCE (m): -0.334  
NRP Zrcs MEAN DIFFERENCE (m): 0.031

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.403  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.571  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.277

NRP Xrcs 2-RMS DIFFERENCE (m): 1.298  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.879  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.284

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 190.189  
LGRP Yrcs POSITION (m): 3.431

APPROACH #: SU428462  
START TIME: 248668.249  
STOP TIME: 248781.999

MINIMUM HDOP: 5.5  
MAXIMUM HDOP: 6.4  
AVERAGE HDOP: 5.9

MINIMUM VDOP: 13.2  
MAXIMUM VDOP: 15.9  
AVERAGE VDOP: 14.6

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.617  
NRP Yrcs MEAN DIFFERENCE (m): -0.334  
NRP Zrcs MEAN DIFFERENCE (m): 0.031

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.403  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.571  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.277

NRP Xrcs 2-RMS DIFFERENCE (m): 1.298  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.879  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.284

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 190.189  
LGRP Yrcs POSITION (m): 3.431







APPROACH #: SU428464  
START TIME: 249107.749  
STOP TIME: 249227.499

MINIMUM HDOP: 3.7  
MAXIMUM HDOP: 4.0  
AVERAGE HDOP: 3.9

MINIMUM VDOP: 8.0  
MAXIMUM VDOP: 8.9  
AVERAGE VDOP: 8.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.422  
NRP Yrcs MEAN DIFFERENCE (m): -0.232  
NRP Zrcs MEAN DIFFERENCE (m): 0.087

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.215  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.363  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.228

NRP Xrcs 2-RMS DIFFERENCE (m): 0.870  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.590  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.286

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 318.170  
LGRP Yrcs POSITION (m): 0.668

APPROACH #: SU428464  
START TIME: 249107.749  
STOP TIME: 249227.499

MINIMUM HDOP: 3.7  
MAXIMUM HDOP: 4.0  
AVERAGE HDOP: 3.9

MINIMUM VDOP: 8.0  
MAXIMUM VDOP: 8.9  
AVERAGE VDOP: 8.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.422  
NRP Yrcs MEAN DIFFERENCE (m): -0.232  
NRP Zrcs MEAN DIFFERENCE (m): 0.087

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.215  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.363  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.228

NRP Xrcs 2-RMS DIFFERENCE (m): 0.870  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.590  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.286

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 318.170  
LGRP Yrcs POSITION (m): 0.668







APPROACH #: SU428466  
START TIME: 249554.749  
STOP TIME: 249673.749

MINIMUM HDOP: 3.1  
MAXIMUM HDOP: 3.2  
AVERAGE HDOP: 3.1

MINIMUM VDOP: 5.8  
MAXIMUM VDOP: 6.3  
AVERAGE VDOP: 6.0

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.483  
NRP Yrcs MEAN DIFFERENCE (m): -0.111  
NRP Zrcs MEAN DIFFERENCE (m): 0.099

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.176  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.144  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.259

NRP Xrcs 2-RMS DIFFERENCE (m): 0.981  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.264  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.326

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 290.855  
LGRP Yrcs POSITION (m): 3.532

APPROACH #: SU428466  
START TIME: 249554.749  
STOP TIME: 249673.749

MINIMUM HDOP: 3.1  
MAXIMUM HDOP: 3.2  
AVERAGE HDOP: 3.1

MINIMUM VDOP: 5.8  
MAXIMUM VDOP: 6.3  
AVERAGE VDOP: 6.0

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.483  
NRP Yrcs MEAN DIFFERENCE (m): -0.111  
NRP Zrcs MEAN DIFFERENCE (m): 0.099

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.176  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.144  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.259

NRP Xrcs 2-RMS DIFFERENCE (m): 0.981  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.264  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.326

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 290.855  
LGRP Yrcs POSITION (m): 3.532







APPROACH #: SU428468  
START TIME: 249979.749  
STOP TIME: 250099.749

MINIMUM HDOP: 2.8  
MAXIMUM HDOP: 2.9  
AVERAGE HDOP: 2.9

MINIMUM VDOP: 4.8  
MAXIMUM VDOP: 5.0  
AVERAGE VDOP: 4.9

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.514  
NRP Yrcs MEAN DIFFERENCE (m): -0.212  
NRP Zrcs MEAN DIFFERENCE (m): -0.004

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.247  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.405  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.312

NRP Xrcs 2-RMS DIFFERENCE (m): 1.058  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.587  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.312

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 161.687  
LGRP Yrcs POSITION (m): -0.457

APPROACH #: SU428468  
START TIME: 249979.749  
STOP TIME: 250099.749

MINIMUM HDOP: 2.8  
MAXIMUM HDOP: 2.9  
AVERAGE HDOP: 2.9

MINIMUM VDOP: 4.8  
MAXIMUM VDOP: 5.0  
AVERAGE VDOP: 4.9

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.514  
NRP Yrcs MEAN DIFFERENCE (m): -0.212  
NRP Zrcs MEAN DIFFERENCE (m): -0.004

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.247  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.405  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.312

NRP Xrcs 2-RMS DIFFERENCE (m): 1.058  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.587  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.312

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 161.687  
LGRP Yrcs POSITION (m): -0.457







APPROACH #: SU428470  
START TIME: 250402.749  
STOP TIME: 250522.499

MINIMUM HDOP: 2.8  
MAXIMUM HDOP: 2.8  
AVERAGE HDOP: 2.8

MINIMUM VDOP: 4.2  
MAXIMUM VDOP: 4.3  
AVERAGE VDOP: 4.2

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.538  
NRP Yrcs MEAN DIFFERENCE (m): -0.155  
NRP Zrcs MEAN DIFFERENCE (m): 0.081

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.373  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.222  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.252

NRP Xrcs 2-RMS DIFFERENCE (m): 1.139  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.381  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.300

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 129.115  
LGRP Yrcs POSITION (m): 0.682

APPROACH #: SU428470  
START TIME: 250402.749  
STOP TIME: 250522.499

MINIMUM HDOP: 2.8  
MAXIMUM HDOP: 2.8  
AVERAGE HDOP: 2.8

MINIMUM VDOP: 4.2  
MAXIMUM VDOP: 4.3  
AVERAGE VDOP: 4.2

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.538  
NRP Yrcs MEAN DIFFERENCE (m): -0.155  
NRP Zrcs MEAN DIFFERENCE (m): 0.081

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.373  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.222  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.252

NRP Xrcs 2-RMS DIFFERENCE (m): 1.139  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.381  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.300

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 129.115  
LGRP Yrcs POSITION (m): 0.682







APPROACH #: SU428502  
START TIME: 321140.624  
STOP TIME: 321247.249

MINIMUM HDOP: 2.7  
MAXIMUM HDOP: 2.7  
AVERAGE HDOP: 2.7

MINIMUM VDOP: 5.1  
MAXIMUM VDOP: 5.1  
AVERAGE VDOP: 5.1

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.434  
NRP Yrcs MEAN DIFFERENCE (m): -0.256  
NRP Zrcs MEAN DIFFERENCE (m): 0.082

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.370  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.383  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.200

NRP Xrcs 2-RMS DIFFERENCE (m): 0.944  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.639  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.259

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 85.159  
LGRP Yrcs POSITION (m): 1.071

APPROACH #: SU428502  
START TIME: 321140.624  
STOP TIME: 321247.249

MINIMUM HDOP: 2.7  
MAXIMUM HDOP: 2.7  
AVERAGE HDOP: 2.7

MINIMUM VDOP: 5.1  
MAXIMUM VDOP: 5.1  
AVERAGE VDOP: 5.1

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.434  
NRP Yrcs MEAN DIFFERENCE (m): -0.256  
NRP Zrcs MEAN DIFFERENCE (m): 0.082

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.370  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.383  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.200

NRP Xrcs 2-RMS DIFFERENCE (m): 0.944  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.639  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.259

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 85.159  
LGRP Yrcs POSITION (m): 1.071







APPROACH #: SU428504  
START TIME: 321575.249  
STOP TIME: 321683.999

MINIMUM HDOP: 2.6  
MAXIMUM HDOP: 2.6  
AVERAGE HDOP: 2.6

MINIMUM VDOP: 4.9  
MAXIMUM VDOP: 4.9  
AVERAGE VDOP: 4.9

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.299  
NRP Yrcs MEAN DIFFERENCE (m): -0.063  
NRP Zrcs MEAN DIFFERENCE (m): 0.104

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.167  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.131  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.220

NRP Xrcs 2-RMS DIFFERENCE (m): 0.620  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.182  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.303

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 167.032  
LGRP Yrcs POSITION (m): 0.068

APPROACH #: SU428504  
START TIME: 321575.249  
STOP TIME: 321683.999

MINIMUM HDOP: 2.6  
MAXIMUM HDOP: 2.6  
AVERAGE HDOP: 2.6

MINIMUM VDOP: 4.9  
MAXIMUM VDOP: 4.9  
AVERAGE VDOP: 4.9

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.299  
NRP Yrcs MEAN DIFFERENCE (m): -0.063  
NRP Zrcs MEAN DIFFERENCE (m): 0.104

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.167  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.131  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.220

NRP Xrcs 2-RMS DIFFERENCE (m): 0.620  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.182  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.303

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 167.032  
LGRP Yrcs POSITION (m): 0.068







APPROACH #: SU428506  
START TIME: 322268.999  
STOP TIME: 322376.499

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 4.3  
MAXIMUM VDOP: 4.4  
AVERAGE VDOP: 4.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.452  
NRP Yrcs MEAN DIFFERENCE (m): -0.204  
NRP Zrcs MEAN DIFFERENCE (m): 0.251

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.239  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.173  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.292

NRP Xrcs 2-RMS DIFFERENCE (m): 0.935  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.444  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.580

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 133.697  
LGRP Yrcs POSITION (m): 1.379

APPROACH #: SU428506  
START TIME: 322268.999  
STOP TIME: 322376.499

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 4.3  
MAXIMUM VDOP: 4.4  
AVERAGE VDOP: 4.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.452  
NRP Yrcs MEAN DIFFERENCE (m): -0.204  
NRP Zrcs MEAN DIFFERENCE (m): 0.251

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.239  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.173  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.292

NRP Xrcs 2-RMS DIFFERENCE (m): 0.935  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.444  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.580

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 133.697  
LGRP Yrcs POSITION (m): 1.379







APPROACH #: SU428508  
START TIME: 322668.999  
STOP TIME: 322777.249

MINIMUM HDOP: 2.3  
MAXIMUM HDOP: 2.3  
AVERAGE HDOP: 2.3

MINIMUM VDOP: 3.9  
MAXIMUM VDOP: 4.0  
AVERAGE VDOP: 4.0

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.472  
NRP Yrcs MEAN DIFFERENCE (m): -0.138  
NRP Zrcs MEAN DIFFERENCE (m): 0.138

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.240  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.158  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.248

NRP Xrcs 2-RMS DIFFERENCE (m): 0.974  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.318  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.371

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 115.686  
LGRP Yrcs POSITION (m): -0.934

APPROACH #: SU428508  
START TIME: 322668.999  
STOP TIME: 322777.249

MINIMUM HDOP: 2.3  
MAXIMUM HDOP: 2.3  
AVERAGE HDOP: 2.3

MINIMUM VDOP: 3.9  
MAXIMUM VDOP: 4.0  
AVERAGE VDOP: 4.0

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.472  
NRP Yrcs MEAN DIFFERENCE (m): -0.138  
NRP Zrcs MEAN DIFFERENCE (m): 0.138

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.240  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.158  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.248

NRP Xrcs 2-RMS DIFFERENCE (m): 0.974  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.318  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.371

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 115.686  
LGRP Yrcs POSITION (m): -0.934







APPROACH #: SU428510  
START TIME: 323056.999  
STOP TIME: 323165.749

MINIMUM HDOP: 2.3  
MAXIMUM HDOP: 2.3  
AVERAGE HDOP: 2.3

MINIMUM VDOP: 3.7  
MAXIMUM VDOP: 3.7  
AVERAGE VDOP: 3.7

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.440  
NRP Yrcs MEAN DIFFERENCE (m): -0.211  
NRP Zrcs MEAN DIFFERENCE (m): 0.082

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.140  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.199  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.232

NRP Xrcs 2-RMS DIFFERENCE (m): 0.891  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.466  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.283

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 162.269  
LGRP Yrcs POSITION (m): -3.032

APPROACH #: SU428510  
START TIME: 323056.999  
STOP TIME: 323165.749

MINIMUM HDOP: 2.3  
MAXIMUM HDOP: 2.3  
AVERAGE HDOP: 2.3

MINIMUM VDOP: 3.7  
MAXIMUM VDOP: 3.7  
AVERAGE VDOP: 3.7

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.440  
NRP Yrcs MEAN DIFFERENCE (m): -0.211  
NRP Zrcs MEAN DIFFERENCE (m): 0.082

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.140  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.199  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.232

NRP Xrcs 2-RMS DIFFERENCE (m): 0.891  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.466  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.283

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 162.269  
LGRP Yrcs POSITION (m): -3.032







APPROACH #: SU428512  
START TIME: 323478.749  
STOP TIME: 323587.499

MINIMUM HDOP: 2.2  
MAXIMUM HDOP: 2.2  
AVERAGE HDOP: 2.2

MINIMUM VDOP: 3.5  
MAXIMUM VDOP: 3.5  
AVERAGE VDOP: 3.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.349  
NRP Yrcs MEAN DIFFERENCE (m): -0.240  
NRP Zrcs MEAN DIFFERENCE (m): 0.000

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.215  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.378  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.172

NRP Xrcs 2-RMS DIFFERENCE (m): 0.730  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.611  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.172

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 139.993  
LGRP Yrcs POSITION (m): 3.610

APPROACH #: SU428512  
START TIME: 323478.749  
STOP TIME: 323587.499

MINIMUM HDOP: 2.2  
MAXIMUM HDOP: 2.2  
AVERAGE HDOP: 2.2

MINIMUM VDOP: 3.5  
MAXIMUM VDOP: 3.5  
AVERAGE VDOP: 3.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.349  
NRP Yrcs MEAN DIFFERENCE (m): -0.240  
NRP Zrcs MEAN DIFFERENCE (m): 0.000

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.215  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.378  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.172

NRP Xrcs 2-RMS DIFFERENCE (m): 0.730  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.611  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.172

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 139.993  
LGRP Yrcs POSITION (m): 3.610







APPROACH #: SU428516  
START TIME: 324269.749  
STOP TIME: 324378.749

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 4.5  
MAXIMUM VDOP: 4.6  
AVERAGE VDOP: 4.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.379  
NRP Yrcs MEAN DIFFERENCE (m): -0.127  
NRP Zrcs MEAN DIFFERENCE (m): 0.039

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.171  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.198  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.208

NRP Xrcs 2-RMS DIFFERENCE (m): 0.777  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.322  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.222

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 217.611  
LGRP Yrcs POSITION (m): -1.285

APPROACH #: SU428516  
START TIME: 324269.749  
STOP TIME: 324378.749

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 4.5  
MAXIMUM VDOP: 4.6  
AVERAGE VDOP: 4.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.379  
NRP Yrcs MEAN DIFFERENCE (m): -0.127  
NRP Zrcs MEAN DIFFERENCE (m): 0.039

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.171  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.198  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.208

NRP Xrcs 2-RMS DIFFERENCE (m): 0.777  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.322  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.222

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 217.611  
LGRP Yrcs POSITION (m): -1.285







APPROACH #: SU428518  
START TIME: 324661.249  
STOP TIME: 324770.249

MINIMUM HDOP: 2.5  
MAXIMUM HDOP: 2.5  
AVERAGE HDOP: 2.5

MINIMUM VDOP: 4.8  
MAXIMUM VDOP: 4.9  
AVERAGE VDOP: 4.8

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.370  
NRP Yrcs MEAN DIFFERENCE (m): -0.048  
NRP Zrcs MEAN DIFFERENCE (m): 0.057

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.225  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.087  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.202

NRP Xrcs 2-RMS DIFFERENCE (m): 0.773  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.130  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.231

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 193.498  
LGRP Yrcs POSITION (m): -0.409

APPROACH #: SU428518  
START TIME: 324661.249  
STOP TIME: 324770.249

MINIMUM HDOP: 2.5  
MAXIMUM HDOP: 2.5  
AVERAGE HDOP: 2.5

MINIMUM VDOP: 4.8  
MAXIMUM VDOP: 4.9  
AVERAGE VDOP: 4.8

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.370  
NRP Yrcs MEAN DIFFERENCE (m): -0.048  
NRP Zrcs MEAN DIFFERENCE (m): 0.057

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.225  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.087  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.202

NRP Xrcs 2-RMS DIFFERENCE (m): 0.773  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.130  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.231

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 193.498  
LGRP Yrcs POSITION (m): -0.409







APPROACH #: SU428520  
START TIME: 325118.749  
STOP TIME: 325227.749

MINIMUM HDOP: 2.7  
MAXIMUM HDOP: 2.7  
AVERAGE HDOP: 2.7

MINIMUM VDOP: 5.2  
MAXIMUM VDOP: 5.4  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.365  
NRP Yrcs MEAN DIFFERENCE (m): -0.037  
NRP Zrcs MEAN DIFFERENCE (m): -0.032

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.313  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.224  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.207

NRP Xrcs 2-RMS DIFFERENCE (m): 0.795  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.236  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.216

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 242.966  
LGRP Yrcs POSITION (m): 2.444

APPROACH #: SU428520  
START TIME: 325118.749  
STOP TIME: 325227.749

MINIMUM HDOP: 2.7  
MAXIMUM HDOP: 2.7  
AVERAGE HDOP: 2.7

MINIMUM VDOP: 5.2  
MAXIMUM VDOP: 5.4  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.365  
NRP Yrcs MEAN DIFFERENCE (m): -0.037  
NRP Zrcs MEAN DIFFERENCE (m): -0.032

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.313  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.224  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.207

NRP Xrcs 2-RMS DIFFERENCE (m): 0.795  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.236  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.216

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 242.966  
LGRP Yrcs POSITION (m): 2.444







APPROACH #: SU428522  
START TIME: 325549.749  
STOP TIME: 325659.499

MINIMUM HDOP: 3.0  
MAXIMUM HDOP: 3.1  
AVERAGE HDOP: 3.0

MINIMUM VDOP: 5.9  
MAXIMUM VDOP: 6.1  
AVERAGE VDOP: 6.0

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.422  
NRP Yrcs MEAN DIFFERENCE (m): -0.091  
NRP Zrcs MEAN DIFFERENCE (m): -0.063

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.532  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.132  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.228

NRP Xrcs 2-RMS DIFFERENCE (m): 0.998  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.224  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.261

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 202.492  
LGRP Yrcs POSITION (m): 0.056

APPROACH #: SU428522  
START TIME: 325549.749  
STOP TIME: 325659.499

MINIMUM HDOP: 3.0  
MAXIMUM HDOP: 3.1  
AVERAGE HDOP: 3.0

MINIMUM VDOP: 5.9  
MAXIMUM VDOP: 6.1  
AVERAGE VDOP: 6.0

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.422  
NRP Yrcs MEAN DIFFERENCE (m): -0.091  
NRP Zrcs MEAN DIFFERENCE (m): -0.063

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.532  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.132  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.228

NRP Xrcs 2-RMS DIFFERENCE (m): 0.998  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.224  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.261

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 202.492  
LGRP Yrcs POSITION (m): 0.056







APPROACH #: SU428524  
START TIME: 325972.999  
STOP TIME: 326087.749

MINIMUM HDOP: 3.1  
MAXIMUM HDOP: 3.2  
AVERAGE HDOP: 3.1

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.388  
NRP Yrcs MEAN DIFFERENCE (m): -0.056  
NRP Zrcs MEAN DIFFERENCE (m): 0.015

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.299  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.173  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.234

NRP Xrcs 2-RMS DIFFERENCE (m): 0.831  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.206  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.236

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 234.433  
LGRP Yrcs POSITION (m): 2.021

APPROACH #: SU428524  
START TIME: 325972.999  
STOP TIME: 326087.749

MINIMUM HDOP: 3.1  
MAXIMUM HDOP: 3.2  
AVERAGE HDOP: 3.1

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.388  
NRP Yrcs MEAN DIFFERENCE (m): -0.056  
NRP Zrcs MEAN DIFFERENCE (m): 0.015

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.299  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.173  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.234

NRP Xrcs 2-RMS DIFFERENCE (m): 0.831  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.206  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.236

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 234.433  
LGRP Yrcs POSITION (m): 2.021







APPROACH #: SU428526  
START TIME: 326676.999  
STOP TIME: 326784.499

MINIMUM HDOP: 2.8  
MAXIMUM HDOP: 2.8  
AVERAGE HDOP: 2.8

MINIMUM VDOP: 5.2  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.467  
NRP Yrcs MEAN DIFFERENCE (m): -0.131  
NRP Zrcs MEAN DIFFERENCE (m): 0.055

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.193  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.159  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.200

NRP Xrcs 2-RMS DIFFERENCE (m): 0.953  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.306  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.229

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 228.619  
LGRP Yrcs POSITION (m): 3.873

APPROACH #: SU428526  
START TIME: 326676.999  
STOP TIME: 326784.499

MINIMUM HDOP: 2.8  
MAXIMUM HDOP: 2.8  
AVERAGE HDOP: 2.8

MINIMUM VDOP: 5.2  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.467  
NRP Yrcs MEAN DIFFERENCE (m): -0.131  
NRP Zrcs MEAN DIFFERENCE (m): 0.055

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.193  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.159  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.200

NRP Xrcs 2-RMS DIFFERENCE (m): 0.953  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.306  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.229

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 228.619  
LGRP Yrcs POSITION (m): 3.873







APPROACH #: SU428528  
START TIME: 327121.499  
STOP TIME: 327229.249

MINIMUM HDOP: 2.7  
MAXIMUM HDOP: 2.8  
AVERAGE HDOP: 2.7

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.452  
NRP Yrcs MEAN DIFFERENCE (m): -0.113  
NRP Zrcs MEAN DIFFERENCE (m): 0.045

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.259  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.161  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.261

NRP Xrcs 2-RMS DIFFERENCE (m): 0.939  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.277  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.276

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 159.472  
LGRP Yrcs POSITION (m): 0.436

APPROACH #: SU428528  
START TIME: 327121.499  
STOP TIME: 327229.249

MINIMUM HDOP: 2.7  
MAXIMUM HDOP: 2.8  
AVERAGE HDOP: 2.7

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.452  
NRP Yrcs MEAN DIFFERENCE (m): -0.113  
NRP Zrcs MEAN DIFFERENCE (m): 0.045

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.259  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.161  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.261

NRP Xrcs 2-RMS DIFFERENCE (m): 0.939  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.277  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.276

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 159.472  
LGRP Yrcs POSITION (m): 0.436







APPROACH #: SU428530  
START TIME: 327545.499  
STOP TIME: 327653.249

MINIMUM HDOP: 2.7  
MAXIMUM HDOP: 2.7  
AVERAGE HDOP: 2.7

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.470  
NRP Yrcs MEAN DIFFERENCE (m): -0.065  
NRP Zrcs MEAN DIFFERENCE (m): 0.007

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.263  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.126  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.180

NRP Xrcs 2-RMS DIFFERENCE (m): 0.976  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.180  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.181

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 163.649  
LGRP Yrcs POSITION (m): -1.566

APPROACH #: SU428530  
START TIME: 327545.499  
STOP TIME: 327653.249

MINIMUM HDOP: 2.7  
MAXIMUM HDOP: 2.7  
AVERAGE HDOP: 2.7

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.470  
NRP Yrcs MEAN DIFFERENCE (m): -0.065  
NRP Zrcs MEAN DIFFERENCE (m): 0.007

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.263  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.126  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.180

NRP Xrcs 2-RMS DIFFERENCE (m): 0.976  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.180  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.181

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 163.649  
LGRP Yrcs POSITION (m): -1.566







APPROACH #: SU428532  
START TIME: 327973.249  
STOP TIME: 328082.249

MINIMUM HDOP: 2.8  
MAXIMUM HDOP: 2.8  
AVERAGE HDOP: 2.8

MINIMUM VDOP: 5.4  
MAXIMUM VDOP: 5.5  
AVERAGE VDOP: 5.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.540  
NRP Yrcs MEAN DIFFERENCE (m): -0.022  
NRP Zrcs MEAN DIFFERENCE (m): -0.016

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.202  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.132  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.180

NRP Xrcs 2-RMS DIFFERENCE (m): 1.099  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.139  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.183

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 170.224  
LGRP Yrcs POSITION (m): -0.266

APPROACH #: SU428532  
START TIME: 327973.249  
STOP TIME: 328082.249

MINIMUM HDOP: 2.8  
MAXIMUM HDOP: 2.8  
AVERAGE HDOP: 2.8

MINIMUM VDOP: 5.4  
MAXIMUM VDOP: 5.5  
AVERAGE VDOP: 5.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.540  
NRP Yrcs MEAN DIFFERENCE (m): -0.022  
NRP Zrcs MEAN DIFFERENCE (m): -0.016

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.202  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.132  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.180

NRP Xrcs 2-RMS DIFFERENCE (m): 1.099  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.139  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.183

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 170.224  
LGRP Yrcs POSITION (m): -0.266







APPROACH #: SU428534  
START TIME: 328379.499  
STOP TIME: 328486.999

MINIMUM HDOP: 2.9  
MAXIMUM HDOP: 3.0  
AVERAGE HDOP: 2.9

MINIMUM VDOP: 5.5  
MAXIMUM VDOP: 5.6  
AVERAGE VDOP: 5.6

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.594  
NRP Yrcs MEAN DIFFERENCE (m): -0.052  
NRP Zrcs MEAN DIFFERENCE (m): 0.070

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.186  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.145  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.182

NRP Xrcs 2-RMS DIFFERENCE (m): 1.202  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.179  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.230

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 212.295  
LGRP Yrcs POSITION (m): 3.422

APPROACH #: SU428534  
START TIME: 328379.499  
STOP TIME: 328486.999

MINIMUM HDOP: 2.9  
MAXIMUM HDOP: 3.0  
AVERAGE HDOP: 2.9

MINIMUM VDOP: 5.5  
MAXIMUM VDOP: 5.6  
AVERAGE VDOP: 5.6

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.594  
NRP Yrcs MEAN DIFFERENCE (m): -0.052  
NRP Zrcs MEAN DIFFERENCE (m): 0.070

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.186  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.145  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.182

NRP Xrcs 2-RMS DIFFERENCE (m): 1.202  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.179  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.230

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 212.295  
LGRP Yrcs POSITION (m): 3.422







APPROACH #: SU428536  
START TIME: 328798.749  
STOP TIME: 328905.499

MINIMUM HDOP: 3.1  
MAXIMUM HDOP: 3.2  
AVERAGE HDOP: 3.1

MINIMUM VDOP: 5.8  
MAXIMUM VDOP: 5.9  
AVERAGE VDOP: 5.8

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.515  
NRP Yrcs MEAN DIFFERENCE (m): -0.145  
NRP Zrcs MEAN DIFFERENCE (m): -0.056

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.177  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.187  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.175

NRP Xrcs 2-RMS DIFFERENCE (m): 1.044  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.346  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.208

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 187.576  
LGRP Yrcs POSITION (m): 1.400

APPROACH #: SU428536  
START TIME: 328798.749  
STOP TIME: 328905.499

MINIMUM HDOP: 3.1  
MAXIMUM HDOP: 3.2  
AVERAGE HDOP: 3.1

MINIMUM VDOP: 5.8  
MAXIMUM VDOP: 5.9  
AVERAGE VDOP: 5.8

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.515  
NRP Yrcs MEAN DIFFERENCE (m): -0.145  
NRP Zrcs MEAN DIFFERENCE (m): -0.056

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.177  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.187  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.175

NRP Xrcs 2-RMS DIFFERENCE (m): 1.044  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.346  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.208

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 187.576  
LGRP Yrcs POSITION (m): 1.400







APPROACH #: SU428538  
START TIME: 329209.999  
STOP TIME: 329316.499

MINIMUM HDOP: 3.4  
MAXIMUM HDOP: 3.4  
AVERAGE HDOP: 3.4

MINIMUM VDOP: 6.2  
MAXIMUM VDOP: 6.4  
AVERAGE VDOP: 6.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.494  
NRP Yrcs MEAN DIFFERENCE (m): -0.140  
NRP Zrcs MEAN DIFFERENCE (m): -0.050

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.259  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.281  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.212

NRP Xrcs 2-RMS DIFFERENCE (m): 1.022  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.397  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.235

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 162.387  
LGRP Yrcs POSITION (m): -2.614

APPROACH #: SU428538  
START TIME: 329209.999  
STOP TIME: 329316.499

MINIMUM HDOP: 3.4  
MAXIMUM HDOP: 3.4  
AVERAGE HDOP: 3.4

MINIMUM VDOP: 6.2  
MAXIMUM VDOP: 6.4  
AVERAGE VDOP: 6.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.494  
NRP Yrcs MEAN DIFFERENCE (m): -0.140  
NRP Zrcs MEAN DIFFERENCE (m): -0.050

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.259  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.281  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.212

NRP Xrcs 2-RMS DIFFERENCE (m): 1.022  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.397  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.235

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 162.387  
LGRP Yrcs POSITION (m): -2.614







APPROACH #: SU428540  
START TIME: 329628.249  
STOP TIME: 329734.249

MINIMUM HDOP: 3.6  
MAXIMUM HDOP: 3.7  
AVERAGE HDOP: 3.6

MINIMUM VDOP: 7.0  
MAXIMUM VDOP: 7.2  
AVERAGE VDOP: 7.1

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.490  
NRP Yrcs MEAN DIFFERENCE (m): -0.056  
NRP Zrcs MEAN DIFFERENCE (m): 0.042

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.422  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.109  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.192

NRP Xrcs 2-RMS DIFFERENCE (m): 1.068  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.157  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.210

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 153.001  
LGRP Yrcs POSITION (m): -0.893

APPROACH #: SU428540  
START TIME: 329628.249  
STOP TIME: 329734.249

MINIMUM HDOP: 3.6  
MAXIMUM HDOP: 3.7  
AVERAGE HDOP: 3.6

MINIMUM VDOP: 7.0  
MAXIMUM VDOP: 7.2  
AVERAGE VDOP: 7.1

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.490  
NRP Yrcs MEAN DIFFERENCE (m): -0.056  
NRP Zrcs MEAN DIFFERENCE (m): 0.042

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.422  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.109  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.192

NRP Xrcs 2-RMS DIFFERENCE (m): 1.068  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.157  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.210

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 153.001  
LGRP Yrcs POSITION (m): -0.893







APPROACH #: SU428542  
START TIME: 330027.749  
STOP TIME: 330137.249

MINIMUM HDOP: 3.8  
MAXIMUM HDOP: 3.9  
AVERAGE HDOP: 3.9

MINIMUM VDOP: 8.0  
MAXIMUM VDOP: 8.3  
AVERAGE VDOP: 8.1

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.521  
NRP Yrcs MEAN DIFFERENCE (m): -0.036  
NRP Zrcs MEAN DIFFERENCE (m): 0.059

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.405  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.196  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.294

NRP Xrcs 2-RMS DIFFERENCE (m): 1.117  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.209  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.317

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 95.967  
LGRP Yrcs POSITION (m): 0.325

APPROACH #: SU428542  
START TIME: 330027.749  
STOP TIME: 330137.249

MINIMUM HDOP: 3.8  
MAXIMUM HDOP: 3.9  
AVERAGE HDOP: 3.9

MINIMUM VDOP: 8.0  
MAXIMUM VDOP: 8.3  
AVERAGE VDOP: 8.1

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.521  
NRP Yrcs MEAN DIFFERENCE (m): -0.036  
NRP Zrcs MEAN DIFFERENCE (m): 0.059

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.405  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.196  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.294

NRP Xrcs 2-RMS DIFFERENCE (m): 1.117  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.209  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.317

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 95.967  
LGRP Yrcs POSITION (m): 0.325







APPROACH #: SU428544  
START TIME: 331091.999  
STOP TIME: 331206.749

MINIMUM HDOP: 3.2  
MAXIMUM HDOP: 3.2  
AVERAGE HDOP: 3.2

MINIMUM VDOP: 10.4  
MAXIMUM VDOP: 10.4  
AVERAGE VDOP: 10.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.602  
NRP Yrcs MEAN DIFFERENCE (m): -0.253  
NRP Zrcs MEAN DIFFERENCE (m): 0.249

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.377  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.241  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.312

NRP Xrcs 2-RMS DIFFERENCE (m): 1.261  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.560  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.588

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 48.651  
LGRP Yrcs POSITION (m): 0.025

APPROACH #: SU428544  
START TIME: 331091.999  
STOP TIME: 331206.749

MINIMUM HDOP: 3.2  
MAXIMUM HDOP: 3.2  
AVERAGE HDOP: 3.2

MINIMUM VDOP: 10.4  
MAXIMUM VDOP: 10.4  
AVERAGE VDOP: 10.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.602  
NRP Yrcs MEAN DIFFERENCE (m): -0.253  
NRP Zrcs MEAN DIFFERENCE (m): 0.249

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.377  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.241  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.312

NRP Xrcs 2-RMS DIFFERENCE (m): 1.261  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.560  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.588

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 48.651  
LGRP Yrcs POSITION (m): 0.025







APPROACH #: SU428546  
START TIME: 331516.249  
STOP TIME: 331627.999

MINIMUM HDOP: 3.0  
MAXIMUM HDOP: 3.0  
AVERAGE HDOP: 3.0

MINIMUM VDOP: 9.9  
MAXIMUM VDOP: 10.1  
AVERAGE VDOP: 10.0

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.589  
NRP Yrcs MEAN DIFFERENCE (m): -0.176  
NRP Zrcs MEAN DIFFERENCE (m): 0.071

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.364  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.211  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.215

NRP Xrcs 2-RMS DIFFERENCE (m): 1.233  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.410  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.257

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 92.407  
LGRP Yrcs POSITION (m): 0.799

APPROACH #: SU428546  
START TIME: 331516.249  
STOP TIME: 331627.999

MINIMUM HDOP: 3.0  
MAXIMUM HDOP: 3.0  
AVERAGE HDOP: 3.0

MINIMUM VDOP: 9.9  
MAXIMUM VDOP: 10.1  
AVERAGE VDOP: 10.0

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.589  
NRP Yrcs MEAN DIFFERENCE (m): -0.176  
NRP Zrcs MEAN DIFFERENCE (m): 0.071

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.364  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.211  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.215

NRP Xrcs 2-RMS DIFFERENCE (m): 1.233  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.410  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.257

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 92.407  
LGRP Yrcs POSITION (m): 0.799







APPROACH #: SU428548  
START TIME: 331939.499  
STOP TIME: 332048.499

MINIMUM HDOP: 2.7  
MAXIMUM HDOP: 2.8  
AVERAGE HDOP: 2.7

MINIMUM VDOP: 8.9  
MAXIMUM VDOP: 9.2  
AVERAGE VDOP: 9.1

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.522  
NRP Yrcs MEAN DIFFERENCE (m): -0.176  
NRP Zrcs MEAN DIFFERENCE (m): 0.087

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.398  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.183  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.259

NRP Xrcs 2-RMS DIFFERENCE (m): 1.117  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.397  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.312

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 138.640  
LGRP Yrcs POSITION (m): 0.571

APPROACH #: SU428548  
START TIME: 331939.499  
STOP TIME: 332048.499

MINIMUM HDOP: 2.7  
MAXIMUM HDOP: 2.8  
AVERAGE HDOP: 2.7

MINIMUM VDOP: 8.9  
MAXIMUM VDOP: 9.2  
AVERAGE VDOP: 9.1

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.522  
NRP Yrcs MEAN DIFFERENCE (m): -0.176  
NRP Zrcs MEAN DIFFERENCE (m): 0.087

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.398  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.183  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.259

NRP Xrcs 2-RMS DIFFERENCE (m): 1.117  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.397  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.312

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 138.640  
LGRP Yrcs POSITION (m): 0.571







APPROACH #: SU428550  
START TIME: 332349.499  
STOP TIME: 332459.249

MINIMUM HDOP: 2.5  
MAXIMUM HDOP: 2.5  
AVERAGE HDOP: 2.5

MINIMUM VDOP: 7.8  
MAXIMUM VDOP: 8.1  
AVERAGE VDOP: 7.9

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.704  
NRP Yrcs MEAN DIFFERENCE (m): -0.194  
NRP Zrcs MEAN DIFFERENCE (m): 0.107

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.305  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.365  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.250

NRP Xrcs 2-RMS DIFFERENCE (m): 1.440  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.533  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.328

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 99.671  
LGRP Yrcs POSITION (m): -2.033

APPROACH #: SU428550  
START TIME: 332349.499  
STOP TIME: 332459.249

MINIMUM HDOP: 2.5  
MAXIMUM HDOP: 2.5  
AVERAGE HDOP: 2.5

MINIMUM VDOP: 7.8  
MAXIMUM VDOP: 8.1  
AVERAGE VDOP: 7.9

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.704  
NRP Yrcs MEAN DIFFERENCE (m): -0.194  
NRP Zrcs MEAN DIFFERENCE (m): 0.107

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.305  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.365  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.250

NRP Xrcs 2-RMS DIFFERENCE (m): 1.440  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.533  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.328

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 99.671  
LGRP Yrcs POSITION (m): -2.033







APPROACH #: SU428552  
START TIME: 332767.249  
STOP TIME: 332880.249

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 6.6  
MAXIMUM VDOP: 6.9  
AVERAGE VDOP: 6.7

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.606  
NRP Yrcs MEAN DIFFERENCE (m): -0.110  
NRP Zrcs MEAN DIFFERENCE (m): -0.041

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.204  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.216  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.208

NRP Xrcs 2-RMS DIFFERENCE (m): 1.229  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.309  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.224

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 50.146  
LGRP Yrcs POSITION (m): 1.617

APPROACH #: SU428552  
START TIME: 332767.249  
STOP TIME: 332880.249

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 6.6  
MAXIMUM VDOP: 6.9  
AVERAGE VDOP: 6.7

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.606  
NRP Yrcs MEAN DIFFERENCE (m): -0.110  
NRP Zrcs MEAN DIFFERENCE (m): -0.041

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.204  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.216  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.208

NRP Xrcs 2-RMS DIFFERENCE (m): 1.229  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.309  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.224

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 50.146  
LGRP Yrcs POSITION (m): 1.617







APPROACH #: SU428554  
START TIME: 333178.499  
STOP TIME: 333291.999

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 5.6  
MAXIMUM VDOP: 5.8  
AVERAGE VDOP: 5.7

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.590  
NRP Yrcs MEAN DIFFERENCE (m): -0.074  
NRP Zrcs MEAN DIFFERENCE (m): 0.005

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.219  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.176  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.236

NRP Xrcs 2-RMS DIFFERENCE (m): 1.200  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.230  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.236

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 185.309  
LGRP Yrcs POSITION (m): -1.307

APPROACH #: SU428554  
START TIME: 333178.499  
STOP TIME: 333291.999

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 5.6  
MAXIMUM VDOP: 5.8  
AVERAGE VDOP: 5.7

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.590  
NRP Yrcs MEAN DIFFERENCE (m): -0.074  
NRP Zrcs MEAN DIFFERENCE (m): 0.005

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.219  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.176  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.236

NRP Xrcs 2-RMS DIFFERENCE (m): 1.200  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.230  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.236

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 185.309  
LGRP Yrcs POSITION (m): -1.307







APPROACH #: SU428556  
START TIME: 333576.999  
STOP TIME: 333689.999

MINIMUM HDOP: 2.5  
MAXIMUM HDOP: 2.5  
AVERAGE HDOP: 2.5

MINIMUM VDOP: 4.8  
MAXIMUM VDOP: 5.0  
AVERAGE VDOP: 4.9

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.691  
NRP Yrcs MEAN DIFFERENCE (m): -0.139  
NRP Zrcs MEAN DIFFERENCE (m): -0.048

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.341  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.283  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.185

NRP Xrcs 2-RMS DIFFERENCE (m): 1.424  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.396  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.209

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 229.468  
LGRP Yrcs POSITION (m): -1.694

APPROACH #: SU428556  
START TIME: 333576.999  
STOP TIME: 333689.999

MINIMUM HDOP: 2.5  
MAXIMUM HDOP: 2.5  
AVERAGE HDOP: 2.5

MINIMUM VDOP: 4.8  
MAXIMUM VDOP: 5.0  
AVERAGE VDOP: 4.9

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.691  
NRP Yrcs MEAN DIFFERENCE (m): -0.139  
NRP Zrcs MEAN DIFFERENCE (m): -0.048

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.341  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.283  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.185

NRP Xrcs 2-RMS DIFFERENCE (m): 1.424  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.396  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.209

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 229.468  
LGRP Yrcs POSITION (m): -1.694







APPROACH #: SU428558  
START TIME: 334010.499  
STOP TIME: 334123.499

MINIMUM HDOP: 1.9  
MAXIMUM HDOP: 2.0  
AVERAGE HDOP: 1.9

MINIMUM VDOP: 3.6  
MAXIMUM VDOP: 3.7  
AVERAGE VDOP: 3.7

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.753  
NRP Yrcs MEAN DIFFERENCE (m): -0.101  
NRP Zrcs MEAN DIFFERENCE (m): -0.014

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.349  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.231  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.194

NRP Xrcs 2-RMS DIFFERENCE (m): 1.546  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.307  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.196

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 240.821  
LGRP Yrcs POSITION (m): -0.994

APPROACH #: SU428558  
START TIME: 334010.499  
STOP TIME: 334123.499

MINIMUM HDOP: 1.9  
MAXIMUM HDOP: 2.0  
AVERAGE HDOP: 1.9

MINIMUM VDOP: 3.6  
MAXIMUM VDOP: 3.7  
AVERAGE VDOP: 3.7

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.753  
NRP Yrcs MEAN DIFFERENCE (m): -0.101  
NRP Zrcs MEAN DIFFERENCE (m): -0.014

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.349  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.231  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.194

NRP Xrcs 2-RMS DIFFERENCE (m): 1.546  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.307  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.196

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 240.821  
LGRP Yrcs POSITION (m): -0.994







APPROACH #: SU428560  
START TIME: 334432.749  
STOP TIME: 334545.249

MINIMUM HDOP: 2.1  
MAXIMUM HDOP: 2.1  
AVERAGE HDOP: 2.1

MINIMUM VDOP: 3.4  
MAXIMUM VDOP: 3.5  
AVERAGE VDOP: 3.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.582  
NRP Yrcs MEAN DIFFERENCE (m): -0.146  
NRP Zrcs MEAN DIFFERENCE (m): -0.051

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.326  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.327  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.185

NRP Xrcs 2-RMS DIFFERENCE (m): 1.208  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.438  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.212

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 298.256  
LGRP Yrcs POSITION (m): -0.887

APPROACH #: SU428560  
START TIME: 334432.749  
STOP TIME: 334545.249

MINIMUM HDOP: 2.1  
MAXIMUM HDOP: 2.1  
AVERAGE HDOP: 2.1

MINIMUM VDOP: 3.4  
MAXIMUM VDOP: 3.5  
AVERAGE VDOP: 3.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.582  
NRP Yrcs MEAN DIFFERENCE (m): -0.146  
NRP Zrcs MEAN DIFFERENCE (m): -0.051

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.326  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.327  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.185

NRP Xrcs 2-RMS DIFFERENCE (m): 1.208  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.438  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.212

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 298.256  
LGRP Yrcs POSITION (m): -0.887







APPROACH #: SU428562  
START TIME: 334865.749  
STOP TIME: 334987.249

MINIMUM HDOP: 5.2  
MAXIMUM HDOP: 6.0  
AVERAGE HDOP: 5.6

MINIMUM VDOP: 12.3  
MAXIMUM VDOP: 14.7  
AVERAGE VDOP: 13.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 3) DUE TO VIOLATION\*  
\* OF THE VERTICAL TUNNEL BOUNDARY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.603  
NRP Yrcs MEAN DIFFERENCE (m): -0.107  
NRP Zrcs MEAN DIFFERENCE (m): 0.001

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.297  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.275  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.215

NRP Xrcs 2-RMS DIFFERENCE (m): 1.243  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.348  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.215

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 74.498  
LGRP Yrcs POSITION (m): 1.592

APPROACH #: SU428562  
START TIME: 334865.749  
STOP TIME: 334987.249

MINIMUM HDOP: 5.2  
MAXIMUM HDOP: 6.0  
AVERAGE HDOP: 5.6

MINIMUM VDOP: 12.3  
MAXIMUM VDOP: 14.7  
AVERAGE VDOP: 13.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.603  
NRP Yrcs MEAN DIFFERENCE (m): -0.107  
NRP Zrcs MEAN DIFFERENCE (m): 0.001

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.297  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.275  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.215

NRP Xrcs 2-RMS DIFFERENCE (m): 1.243  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.348  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.215

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 74.498  
LGRP Yrcs POSITION (m): 1.592







APPROACH #: SU428564  
START TIME: 335799.249  
STOP TIME: 335912.999

MINIMUM HDOP: 3.0  
MAXIMUM HDOP: 3.1  
AVERAGE HDOP: 3.1

MINIMUM VDOP: 5.6  
MAXIMUM VDOP: 5.9  
AVERAGE VDOP: 5.8

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.681  
NRP Yrcs MEAN DIFFERENCE (m): -0.114  
NRP Zrcs MEAN DIFFERENCE (m): 0.103

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.228  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.255  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.263

NRP Xrcs 2-RMS DIFFERENCE (m): 1.382  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.342  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.335

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 98.249  
LGRP Yrcs POSITION (m): -0.341

APPROACH #: SU428564  
START TIME: 335799.249  
STOP TIME: 335912.999

MINIMUM HDOP: 3.0  
MAXIMUM HDOP: 3.1  
AVERAGE HDOP: 3.1

MINIMUM VDOP: 5.6  
MAXIMUM VDOP: 5.9  
AVERAGE VDOP: 5.8

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.681  
NRP Yrcs MEAN DIFFERENCE (m): -0.114  
NRP Zrcs MEAN DIFFERENCE (m): 0.103

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.228  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.255  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.263

NRP Xrcs 2-RMS DIFFERENCE (m): 1.382  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.342  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.335

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 98.249  
LGRP Yrcs POSITION (m): -0.341







APPROACH #: SU428610  
START TIME: 408867.249  
STOP TIME: 408971.249

MINIMUM HDOP: 2.3  
MAXIMUM HDOP: 2.3  
AVERAGE HDOP: 2.3

MINIMUM VDOP: 3.9  
MAXIMUM VDOP: 4.0  
AVERAGE VDOP: 3.9

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.257  
NRP Yrcs MEAN DIFFERENCE (m): -0.091  
NRP Zrcs MEAN DIFFERENCE (m): 0.041

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.103  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.123  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.234

NRP Xrcs 2-RMS DIFFERENCE (m): 0.525  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.220  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.248

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 204.498  
LGRP Yrcs POSITION (m): -0.537

APPROACH #: SU428610  
START TIME: 408867.249  
STOP TIME: 408971.249

MINIMUM HDOP: 2.3  
MAXIMUM HDOP: 2.3  
AVERAGE HDOP: 2.3

MINIMUM VDOP: 3.9  
MAXIMUM VDOP: 4.0  
AVERAGE VDOP: 3.9

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.257  
NRP Yrcs MEAN DIFFERENCE (m): -0.091  
NRP Zrcs MEAN DIFFERENCE (m): 0.041

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.103  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.123  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.234

NRP Xrcs 2-RMS DIFFERENCE (m): 0.525  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.220  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.248

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 204.498  
LGRP Yrcs POSITION (m): -0.537







APPROACH #: SU428614  
START TIME: 409663.749  
STOP TIME: 409764.749

MINIMUM HDOP: 2.2  
MAXIMUM HDOP: 2.2  
AVERAGE HDOP: 2.2

MINIMUM VDOP: 3.5  
MAXIMUM VDOP: 3.5  
AVERAGE VDOP: 3.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.367  
NRP Yrcs MEAN DIFFERENCE (m): -0.108  
NRP Zrcs MEAN DIFFERENCE (m): 0.068

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.117  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.217  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.210

NRP Xrcs 2-RMS DIFFERENCE (m): 0.743  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.306  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.251

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 169.845  
LGRP Yrcs POSITION (m): 2.610

APPROACH #: SU428614  
START TIME: 409663.749  
STOP TIME: 409764.749

MINIMUM HDOP: 2.2  
MAXIMUM HDOP: 2.2  
AVERAGE HDOP: 2.2

MINIMUM VDOP: 3.5  
MAXIMUM VDOP: 3.5  
AVERAGE VDOP: 3.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.367  
NRP Yrcs MEAN DIFFERENCE (m): -0.108  
NRP Zrcs MEAN DIFFERENCE (m): 0.068

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.117  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.217  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.210

NRP Xrcs 2-RMS DIFFERENCE (m): 0.743  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.306  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.251

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 169.845  
LGRP Yrcs POSITION (m): 2.610







APPROACH #: SU428616  
START TIME: 410056.999  
STOP TIME: 410163.499

MINIMUM HDOP: 2.3  
MAXIMUM HDOP: 2.3  
AVERAGE HDOP: 2.3

MINIMUM VDOP: 4.3  
MAXIMUM VDOP: 4.4  
AVERAGE VDOP: 4.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.309  
NRP Yrcs MEAN DIFFERENCE (m): -0.154  
NRP Zrcs MEAN DIFFERENCE (m): 0.025

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.152  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.120  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.199

NRP Xrcs 2-RMS DIFFERENCE (m): 0.637  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.331  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.206

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 257.102  
LGRP Yrcs POSITION (m): 0.894

APPROACH #: SU428616  
START TIME: 410056.999  
STOP TIME: 410163.499

MINIMUM HDOP: 2.3  
MAXIMUM HDOP: 2.3  
AVERAGE HDOP: 2.3

MINIMUM VDOP: 4.3  
MAXIMUM VDOP: 4.4  
AVERAGE VDOP: 4.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.309  
NRP Yrcs MEAN DIFFERENCE (m): -0.154  
NRP Zrcs MEAN DIFFERENCE (m): 0.025

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.152  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.120  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.199

NRP Xrcs 2-RMS DIFFERENCE (m): 0.637  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.331  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.206

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 257.102  
LGRP Yrcs POSITION (m): 0.894







APPROACH #: SU428618  
START TIME: 410458.499  
STOP TIME: 410566.749

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 4.5  
MAXIMUM VDOP: 4.6  
AVERAGE VDOP: 4.6

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.263  
NRP Yrcs MEAN DIFFERENCE (m): -0.033  
NRP Zrcs MEAN DIFFERENCE (m): 0.054

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.126  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.110  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.225

NRP Xrcs 2-RMS DIFFERENCE (m): 0.540  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.128  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.250

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 153.020  
LGRP Yrcs POSITION (m): 3.021

APPROACH #: SU428618  
START TIME: 410458.499  
STOP TIME: 410566.749

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 4.5  
MAXIMUM VDOP: 4.6  
AVERAGE VDOP: 4.6

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.263  
NRP Yrcs MEAN DIFFERENCE (m): -0.033  
NRP Zrcs MEAN DIFFERENCE (m): 0.054

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.126  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.110  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.225

NRP Xrcs 2-RMS DIFFERENCE (m): 0.540  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.128  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.250

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 153.020  
LGRP Yrcs POSITION (m): 3.021







APPROACH #: SU428620  
START TIME: 411299.999  
STOP TIME: 411404.749

MINIMUM HDOP: 2.7  
MAXIMUM HDOP: 2.7  
AVERAGE HDOP: 2.7

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.4  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.173  
NRP Yrcs MEAN DIFFERENCE (m): -0.094  
NRP Zrcs MEAN DIFFERENCE (m): 0.000

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.200  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.158  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.240

NRP Xrcs 2-RMS DIFFERENCE (m): 0.399  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.246  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.240

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 244.557  
LGRP Yrcs POSITION (m): 1.156

APPROACH #: SU428620  
START TIME: 411299.999  
STOP TIME: 411404.749

MINIMUM HDOP: 2.7  
MAXIMUM HDOP: 2.7  
AVERAGE HDOP: 2.7

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.4  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

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\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.173  
NRP Yrcs MEAN DIFFERENCE (m): -0.094  
NRP Zrcs MEAN DIFFERENCE (m): 0.000

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.200  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.158  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.240

NRP Xrcs 2-RMS DIFFERENCE (m): 0.399  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.246  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.240

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 244.557  
LGRP Yrcs POSITION (m): 1.156







APPROACH #: SU428622  
START TIME: 411712.499  
STOP TIME: 411818.999

MINIMUM HDOP: 3.0  
MAXIMUM HDOP: 3.1  
AVERAGE HDOP: 3.0

MINIMUM VDOP: 5.9  
MAXIMUM VDOP: 6.1  
AVERAGE VDOP: 6.0

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

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\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.280  
NRP Yrcs MEAN DIFFERENCE (m): -0.159  
NRP Zrcs MEAN DIFFERENCE (m): 0.053

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.144  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.172  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.197

NRP Xrcs 2-RMS DIFFERENCE (m): 0.579  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.361  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.224

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 282.318  
LGRP Yrcs POSITION (m): 1.215

APPROACH #: SU428622  
START TIME: 411712.499  
STOP TIME: 411818.999

MINIMUM HDOP: 3.0  
MAXIMUM HDOP: 3.1  
AVERAGE HDOP: 3.0

MINIMUM VDOP: 5.9  
MAXIMUM VDOP: 6.1  
AVERAGE VDOP: 6.0

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

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\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.280  
NRP Yrcs MEAN DIFFERENCE (m): -0.159  
NRP Zrcs MEAN DIFFERENCE (m): 0.053

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.144  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.172  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.197

NRP Xrcs 2-RMS DIFFERENCE (m): 0.579  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.361  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.224

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 282.318  
LGRP Yrcs POSITION (m): 1.215







APPROACH #: SU428624  
START TIME: 412137.499  
STOP TIME: 412243.749

MINIMUM HDOP: 3.1  
MAXIMUM HDOP: 3.2  
AVERAGE HDOP: 3.1

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

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\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.412  
NRP Yrcs MEAN DIFFERENCE (m): -0.102  
NRP Zrcs MEAN DIFFERENCE (m): 0.078

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.245  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.116  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.248

NRP Xrcs 2-RMS DIFFERENCE (m): 0.859  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.235  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.293

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 134.851  
LGRP Yrcs POSITION (m): 1.819

APPROACH #: SU428624  
START TIME: 412137.499  
STOP TIME: 412243.749

MINIMUM HDOP: 3.1  
MAXIMUM HDOP: 3.2  
AVERAGE HDOP: 3.1

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.412  
NRP Yrcs MEAN DIFFERENCE (m): -0.102  
NRP Zrcs MEAN DIFFERENCE (m): 0.078

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.245  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.116  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.248

NRP Xrcs 2-RMS DIFFERENCE (m): 0.859  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.235  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.293

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 134.851  
LGRP Yrcs POSITION (m): 1.819







APPROACH #: SU428626  
START TIME: 412521.749  
STOP TIME: 412627.749

MINIMUM HDOP: 2.9  
MAXIMUM HDOP: 3.0  
AVERAGE HDOP: 2.9

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

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\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.401  
NRP Yrcs MEAN DIFFERENCE (m): -0.085  
NRP Zrcs MEAN DIFFERENCE (m): 0.086

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.248  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.104  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.231

NRP Xrcs 2-RMS DIFFERENCE (m): 0.840  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.199  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.287

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 312.822  
LGRP Yrcs POSITION (m): 3.661

APPROACH #: SU428626  
START TIME: 412521.749  
STOP TIME: 412627.749

MINIMUM HDOP: 2.9  
MAXIMUM HDOP: 3.0  
AVERAGE HDOP: 2.9

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.401  
NRP Yrcs MEAN DIFFERENCE (m): -0.085  
NRP Zrcs MEAN DIFFERENCE (m): 0.086

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.248  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.104  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.231

NRP Xrcs 2-RMS DIFFERENCE (m): 0.840  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.199  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.287

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 312.822  
LGRP Yrcs POSITION (m): 3.661







APPROACH #: SU428628  
START TIME: 412926.749  
STOP TIME: 413034.499

MINIMUM HDOP: 2.8  
MAXIMUM HDOP: 2.8  
AVERAGE HDOP: 2.8

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.431  
NRP Yrcs MEAN DIFFERENCE (m): -0.169  
NRP Zrcs MEAN DIFFERENCE (m): 0.118

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.162  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.229  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.206

NRP Xrcs 2-RMS DIFFERENCE (m): 0.877  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.409  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.314

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 125.848  
LGRP Yrcs POSITION (m): 2.862

APPROACH #: SU428628  
START TIME: 412926.749  
STOP TIME: 413034.499

MINIMUM HDOP: 2.8  
MAXIMUM HDOP: 2.8  
AVERAGE HDOP: 2.8

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.431  
NRP Yrcs MEAN DIFFERENCE (m): -0.169  
NRP Zrcs MEAN DIFFERENCE (m): 0.118

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.162  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.229  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.206

NRP Xrcs 2-RMS DIFFERENCE (m): 0.877  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.409  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.314

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 125.848  
LGRP Yrcs POSITION (m): 2.862







APPROACH #: SU428630  
START TIME: 413334.499  
STOP TIME: 413444.249

MINIMUM HDOP: 2.7  
MAXIMUM HDOP: 2.7  
AVERAGE HDOP: 2.7

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.325  
NRP Yrcs MEAN DIFFERENCE (m): -0.090  
NRP Zrcs MEAN DIFFERENCE (m): -0.070

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.179  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.156  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.222

NRP Xrcs 2-RMS DIFFERENCE (m): 0.675  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.238  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.262

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 290.016  
LGRP Yrcs POSITION (m): -3.644

APPROACH #: SU428630  
START TIME: 413334.499  
STOP TIME: 413444.249

MINIMUM HDOP: 2.7  
MAXIMUM HDOP: 2.7  
AVERAGE HDOP: 2.7

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

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\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.325  
NRP Yrcs MEAN DIFFERENCE (m): -0.090  
NRP Zrcs MEAN DIFFERENCE (m): -0.070

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.179  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.156  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.222

NRP Xrcs 2-RMS DIFFERENCE (m): 0.675  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.238  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.262

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 290.016  
LGRP Yrcs POSITION (m): -3.644







APPROACH #: SU428632  
START TIME: 413727.749  
STOP TIME: 413835.499

MINIMUM HDOP: 2.7  
MAXIMUM HDOP: 2.7  
AVERAGE HDOP: 2.7

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.406  
NRP Yrcs MEAN DIFFERENCE (m): -0.151  
NRP Zrcs MEAN DIFFERENCE (m): 0.000

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.233  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.199  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.243

NRP Xrcs 2-RMS DIFFERENCE (m): 0.844  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.362  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.243

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 214.967  
LGRP Yrcs POSITION (m): 0.654

APPROACH #: SU428632  
START TIME: 413727.749  
STOP TIME: 413835.499

MINIMUM HDOP: 2.7  
MAXIMUM HDOP: 2.7  
AVERAGE HDOP: 2.7

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.406  
NRP Yrcs MEAN DIFFERENCE (m): -0.151  
NRP Zrcs MEAN DIFFERENCE (m): 0.000

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.233  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.199  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.243

NRP Xrcs 2-RMS DIFFERENCE (m): 0.844  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.362  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.243

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 214.967  
LGRP Yrcs POSITION (m): 0.654







APPROACH #: SU428634  
START TIME: 414109.249  
STOP TIME: 414216.749

MINIMUM HDOP: 2.8  
MAXIMUM HDOP: 2.8  
AVERAGE HDOP: 2.8

MINIMUM VDOP: 5.4  
MAXIMUM VDOP: 5.4  
AVERAGE VDOP: 5.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.465  
NRP Yrcs MEAN DIFFERENCE (m): -0.146  
NRP Zrcs MEAN DIFFERENCE (m): 0.019

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.181  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.235  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.225

NRP Xrcs 2-RMS DIFFERENCE (m): 0.947  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.375  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.228

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 86.153  
LGRP Yrcs POSITION (m): 2.935

APPROACH #: SU428634  
START TIME: 414109.249  
STOP TIME: 414216.749

MINIMUM HDOP: 2.8  
MAXIMUM HDOP: 2.8  
AVERAGE HDOP: 2.8

MINIMUM VDOP: 5.4  
MAXIMUM VDOP: 5.4  
AVERAGE VDOP: 5.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.465  
NRP Yrcs MEAN DIFFERENCE (m): -0.146  
NRP Zrcs MEAN DIFFERENCE (m): 0.019

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.181  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.235  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.225

NRP Xrcs 2-RMS DIFFERENCE (m): 0.947  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.375  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.228

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 86.153  
LGRP Yrcs POSITION (m): 2.935







APPROACH #: SU428636  
START TIME: 414492.749  
STOP TIME: 414601.999

MINIMUM HDOP: 2.9  
MAXIMUM HDOP: 3.0  
AVERAGE HDOP: 2.9

MINIMUM VDOP: 5.5  
MAXIMUM VDOP: 5.6  
AVERAGE VDOP: 5.6

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.410  
NRP Yrcs MEAN DIFFERENCE (m): -0.037  
NRP Zrcs MEAN DIFFERENCE (m): 0.067

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.237  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.190  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.221

NRP Xrcs 2-RMS DIFFERENCE (m): 0.854  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.204  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.259

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 141.721  
LGRP Yrcs POSITION (m): 3.232

APPROACH #: SU428636  
START TIME: 414492.749  
STOP TIME: 414601.999

MINIMUM HDOP: 2.9  
MAXIMUM HDOP: 3.0  
AVERAGE HDOP: 2.9

MINIMUM VDOP: 5.5  
MAXIMUM VDOP: 5.6  
AVERAGE VDOP: 5.6

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.410  
NRP Yrcs MEAN DIFFERENCE (m): -0.037  
NRP Zrcs MEAN DIFFERENCE (m): 0.067

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.237  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.190  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.221

NRP Xrcs 2-RMS DIFFERENCE (m): 0.854  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.204  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.259

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 141.721  
LGRP Yrcs POSITION (m): 3.232







APPROACH #: SU428638  
START TIME: 414898.749  
STOP TIME: 415011.999

MINIMUM HDOP: 3.1  
MAXIMUM HDOP: 3.1  
AVERAGE HDOP: 3.1

MINIMUM VDOP: 5.8  
MAXIMUM VDOP: 5.8  
AVERAGE VDOP: 5.8

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.469  
NRP Yrcs MEAN DIFFERENCE (m): -0.105  
NRP Zrcs MEAN DIFFERENCE (m): 0.171

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.240  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.270  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.231

NRP Xrcs 2-RMS DIFFERENCE (m): 0.968  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.342  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.413

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 140.772  
LGRP Yrcs POSITION (m): 1.396

APPROACH #: SU428638  
START TIME: 414898.749  
STOP TIME: 415011.999

MINIMUM HDOP: 3.1  
MAXIMUM HDOP: 3.1  
AVERAGE HDOP: 3.1

MINIMUM VDOP: 5.8  
MAXIMUM VDOP: 5.8  
AVERAGE VDOP: 5.8

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.469  
NRP Yrcs MEAN DIFFERENCE (m): -0.105  
NRP Zrcs MEAN DIFFERENCE (m): 0.171

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.240  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.270  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.231

NRP Xrcs 2-RMS DIFFERENCE (m): 0.968  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.342  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.413

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 140.772  
LGRP Yrcs POSITION (m): 1.396







APPROACH #: SU428640  
START TIME: 415894.999  
STOP TIME: 416013.749

MINIMUM HDOP: 3.7  
MAXIMUM HDOP: 3.8  
AVERAGE HDOP: 3.7

MINIMUM VDOP: 7.2  
MAXIMUM VDOP: 7.5  
AVERAGE VDOP: 7.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.421  
NRP Yrcs MEAN DIFFERENCE (m): -0.142  
NRP Zrcs MEAN DIFFERENCE (m): 0.045

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.210  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.220  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.210

NRP Xrcs 2-RMS DIFFERENCE (m): 0.867  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.359  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.228

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 212.619  
LGRP Yrcs POSITION (m): -3.203

APPROACH #: SU428640  
START TIME: 415894.999  
STOP TIME: 416013.749

MINIMUM HDOP: 3.7  
MAXIMUM HDOP: 3.8  
AVERAGE HDOP: 3.7

MINIMUM VDOP: 7.2  
MAXIMUM VDOP: 7.5  
AVERAGE VDOP: 7.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.421  
NRP Yrcs MEAN DIFFERENCE (m): -0.142  
NRP Zrcs MEAN DIFFERENCE (m): 0.045

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.210  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.220  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.210

NRP Xrcs 2-RMS DIFFERENCE (m): 0.867  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.359  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.228

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 212.619  
LGRP Yrcs POSITION (m): -3.203







APPROACH #: SU428642  
START TIME: 416327.499  
STOP TIME: 416447.249

MINIMUM HDOP: 3.9  
MAXIMUM HDOP: 4.0  
AVERAGE HDOP: 3.9

MINIMUM VDOP: 8.4  
MAXIMUM VDOP: 8.7  
AVERAGE VDOP: 8.6

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.419  
NRP Yrcs MEAN DIFFERENCE (m): -0.148  
NRP Zrcs MEAN DIFFERENCE (m): 0.035

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.233  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.376  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.281

NRP Xrcs 2-RMS DIFFERENCE (m): 0.870  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.478  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.290

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 233.047  
LGRP Yrcs POSITION (m): 1.531

APPROACH #: SU428642  
START TIME: 416327.499  
STOP TIME: 416447.249

MINIMUM HDOP: 3.9  
MAXIMUM HDOP: 4.0  
AVERAGE HDOP: 3.9

MINIMUM VDOP: 8.4  
MAXIMUM VDOP: 8.7  
AVERAGE VDOP: 8.6

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.419  
NRP Yrcs MEAN DIFFERENCE (m): -0.148  
NRP Zrcs MEAN DIFFERENCE (m): 0.035

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.233  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.376  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.281

NRP Xrcs 2-RMS DIFFERENCE (m): 0.870  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.478  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.290

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 233.047  
LGRP Yrcs POSITION (m): 1.531







APPROACH #: SU428644  
START TIME: 416731.249  
STOP TIME: 416847.749

MINIMUM HDOP: 4.1  
MAXIMUM HDOP: 4.1  
AVERAGE HDOP: 4.1

MINIMUM VDOP: 9.5  
MAXIMUM VDOP: 9.8  
AVERAGE VDOP: 9.6

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.392  
NRP Yrcs MEAN DIFFERENCE (m): -0.082  
NRP Zrcs MEAN DIFFERENCE (m): -0.061

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.240  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.257  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.275

NRP Xrcs 2-RMS DIFFERENCE (m): 0.819  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.304  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.301

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 165.709  
LGRP Yrcs POSITION (m): 4.090

APPROACH #: SU428644  
START TIME: 416731.249  
STOP TIME: 416847.749

MINIMUM HDOP: 4.1  
MAXIMUM HDOP: 4.1  
AVERAGE HDOP: 4.1

MINIMUM VDOP: 9.5  
MAXIMUM VDOP: 9.8  
AVERAGE VDOP: 9.6

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.392  
NRP Yrcs MEAN DIFFERENCE (m): -0.082  
NRP Zrcs MEAN DIFFERENCE (m): -0.061

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.240  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.257  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.275

NRP Xrcs 2-RMS DIFFERENCE (m): 0.819  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.304  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.301

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 165.709  
LGRP Yrcs POSITION (m): 4.090







APPROACH #: SU428646  
START TIME: 417130.499  
STOP TIME: 417249.499

MINIMUM HDOP: 3.2  
MAXIMUM HDOP: 3.2  
AVERAGE HDOP: 3.2

MINIMUM VDOP: 10.3  
MAXIMUM VDOP: 10.4  
AVERAGE VDOP: 10.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.534  
NRP Yrcs MEAN DIFFERENCE (m): -0.190  
NRP Zrcs MEAN DIFFERENCE (m): 0.001

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.265  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.405  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.218

NRP Xrcs 2-RMS DIFFERENCE (m): 1.100  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.556  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.218

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 392.889  
LGRP Yrcs POSITION (m): 2.417

APPROACH #: SU428646  
START TIME: 417130.499  
STOP TIME: 417249.499

MINIMUM HDOP: 3.2  
MAXIMUM HDOP: 3.2  
AVERAGE HDOP: 3.2

MINIMUM VDOP: 10.3  
MAXIMUM VDOP: 10.4  
AVERAGE VDOP: 10.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.534  
NRP Yrcs MEAN DIFFERENCE (m): -0.190  
NRP Zrcs MEAN DIFFERENCE (m): 0.001

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.265  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.405  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.218

NRP Xrcs 2-RMS DIFFERENCE (m): 1.100  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.556  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.218

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 392.889  
LGRP Yrcs POSITION (m): 2.417







APPROACH #: SU428648  
START TIME: 417555.499  
STOP TIME: 417670.499

MINIMUM HDOP: 3.0  
MAXIMUM HDOP: 3.1  
AVERAGE HDOP: 3.0

MINIMUM VDOP: 10.1  
MAXIMUM VDOP: 10.3  
AVERAGE VDOP: 10.2

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.504  
NRP Yrcs MEAN DIFFERENCE (m): -0.126  
NRP Zrcs MEAN DIFFERENCE (m): 0.065

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.299  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.316  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.268

NRP Xrcs 2-RMS DIFFERENCE (m): 1.050  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.404  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.298

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 161.042  
LGRP Yrcs POSITION (m): 3.234

APPROACH #: SU428648  
START TIME: 417555.499  
STOP TIME: 417670.499

MINIMUM HDOP: 3.0  
MAXIMUM HDOP: 3.1  
AVERAGE HDOP: 3.0

MINIMUM VDOP: 10.1  
MAXIMUM VDOP: 10.3  
AVERAGE VDOP: 10.2

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.504  
NRP Yrcs MEAN DIFFERENCE (m): -0.126  
NRP Zrcs MEAN DIFFERENCE (m): 0.065

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.299  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.316  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.268

NRP Xrcs 2-RMS DIFFERENCE (m): 1.050  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.404  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.298

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 161.042  
LGRP Yrcs POSITION (m): 3.234







APPROACH #: SU428650  
START TIME: 417993.499  
STOP TIME: 418113.999

MINIMUM HDOP: 2.8  
MAXIMUM HDOP: 2.8  
AVERAGE HDOP: 2.8

MINIMUM VDOP: 9.2  
MAXIMUM VDOP: 9.5  
AVERAGE VDOP: 9.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.500  
NRP Yrcs MEAN DIFFERENCE (m): -0.156  
NRP Zrcs MEAN DIFFERENCE (m): 0.059

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.325  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.508  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.253

NRP Xrcs 2-RMS DIFFERENCE (m): 1.052  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.596  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.279

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 96.989  
LGRP Yrcs POSITION (m): 5.739

APPROACH #: SU428650  
START TIME: 417993.499  
STOP TIME: 418113.999

MINIMUM HDOP: 2.8  
MAXIMUM HDOP: 2.8  
AVERAGE HDOP: 2.8

MINIMUM VDOP: 9.2  
MAXIMUM VDOP: 9.5  
AVERAGE VDOP: 9.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.500  
NRP Yrcs MEAN DIFFERENCE (m): -0.156  
NRP Zrcs MEAN DIFFERENCE (m): 0.059

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.325  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.508  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.253

NRP Xrcs 2-RMS DIFFERENCE (m): 1.052  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.596  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.279

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 96.989  
LGRP Yrcs POSITION (m): 5.739







APPROACH #: SU428652  
START TIME: 418396.249  
STOP TIME: 418517.749

MINIMUM HDOP: 2.5  
MAXIMUM HDOP: 2.6  
AVERAGE HDOP: 2.6

MINIMUM VDOP: 8.0  
MAXIMUM VDOP: 8.4  
AVERAGE VDOP: 8.2

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.557  
NRP Yrcs MEAN DIFFERENCE (m): -0.181  
NRP Zrcs MEAN DIFFERENCE (m): 0.083

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.209  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.258  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.197

NRP Xrcs 2-RMS DIFFERENCE (m): 1.134  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.445  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.258

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 218.954  
LGRP Yrcs POSITION (m): -1.106

APPROACH #: SU428652  
START TIME: 418396.249  
STOP TIME: 418517.749

MINIMUM HDOP: 2.5  
MAXIMUM HDOP: 2.6  
AVERAGE HDOP: 2.6

MINIMUM VDOP: 8.0  
MAXIMUM VDOP: 8.4  
AVERAGE VDOP: 8.2

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.557  
NRP Yrcs MEAN DIFFERENCE (m): -0.181  
NRP Zrcs MEAN DIFFERENCE (m): 0.083

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.209  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.258  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.197

NRP Xrcs 2-RMS DIFFERENCE (m): 1.134  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.445  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.258

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 218.954  
LGRP Yrcs POSITION (m): -1.106







APPROACH #: SU428654  
START TIME: 418814.499  
STOP TIME: 418936.499

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 6.8  
MAXIMUM VDOP: 7.2  
AVERAGE VDOP: 7.0

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.440  
NRP Yrcs MEAN DIFFERENCE (m): -0.162  
NRP Zrcs MEAN DIFFERENCE (m): 0.089

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.295  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.216  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.223

NRP Xrcs 2-RMS DIFFERENCE (m): 0.927  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.390  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.285

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 150.274  
LGRP Yrcs POSITION (m): -0.742

APPROACH #: SU428654  
START TIME: 418814.499  
STOP TIME: 418936.499

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 6.8  
MAXIMUM VDOP: 7.2  
AVERAGE VDOP: 7.0

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.440  
NRP Yrcs MEAN DIFFERENCE (m): -0.162  
NRP Zrcs MEAN DIFFERENCE (m): 0.089

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.295  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.216  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.223

NRP Xrcs 2-RMS DIFFERENCE (m): 0.927  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.390  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.285

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 150.274  
LGRP Yrcs POSITION (m): -0.742







APPROACH #: SU428656  
START TIME: 419222.499  
STOP TIME: 419338.999

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 5.8  
MAXIMUM VDOP: 6.1  
AVERAGE VDOP: 6.0

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.383  
NRP Yrcs MEAN DIFFERENCE (m): -0.124  
NRP Zrcs MEAN DIFFERENCE (m): 0.060

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.264  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.168  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.291

NRP Xrcs 2-RMS DIFFERENCE (m): 0.811  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.300  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.315

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 163.272  
LGRP Yrcs POSITION (m): -0.365

APPROACH #: SU428656  
START TIME: 419222.499  
STOP TIME: 419338.999

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 5.8  
MAXIMUM VDOP: 6.1  
AVERAGE VDOP: 6.0

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.383  
NRP Yrcs MEAN DIFFERENCE (m): -0.124  
NRP Zrcs MEAN DIFFERENCE (m): 0.060

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.264  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.168  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.291

NRP Xrcs 2-RMS DIFFERENCE (m): 0.811  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.300  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.315

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 163.272  
LGRP Yrcs POSITION (m): -0.365







APPROACH #: SU428658  
START TIME: 419632.749  
STOP TIME: 419755.999

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.5  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 4.9  
MAXIMUM VDOP: 5.2  
AVERAGE VDOP: 5.0

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.445  
NRP Yrcs MEAN DIFFERENCE (m): -0.151  
NRP Zrcs MEAN DIFFERENCE (m): 0.124

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.296  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.205  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.224

NRP Xrcs 2-RMS DIFFERENCE (m): 0.939  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.366  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.334

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 72.744  
LGRP Yrcs POSITION (m): 5.606

APPROACH #: SU428658  
START TIME: 419632.749  
STOP TIME: 419755.999

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.5  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 4.9  
MAXIMUM VDOP: 5.2  
AVERAGE VDOP: 5.0

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.445  
NRP Yrcs MEAN DIFFERENCE (m): -0.151  
NRP Zrcs MEAN DIFFERENCE (m): 0.124

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.296  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.205  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.224

NRP Xrcs 2-RMS DIFFERENCE (m): 0.939  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.366  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.334

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 72.744  
LGRP Yrcs POSITION (m): 5.606







APPROACH #: SU428660  
START TIME: 420597.499  
STOP TIME: 420720.249

MINIMUM HDOP: 2.1  
MAXIMUM HDOP: 2.1  
AVERAGE HDOP: 2.1

MINIMUM VDOP: 3.4  
MAXIMUM VDOP: 3.5  
AVERAGE VDOP: 3.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.528  
NRP Yrcs MEAN DIFFERENCE (m): -0.104  
NRP Zrcs MEAN DIFFERENCE (m): -0.102

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.223  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.190  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.240

NRP Xrcs 2-RMS DIFFERENCE (m): 1.079  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.282  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.315

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 324.488  
LGRP Yrcs POSITION (m): 0.263

APPROACH #: SU428660  
START TIME: 420597.499  
STOP TIME: 420720.249

MINIMUM HDOP: 2.1  
MAXIMUM HDOP: 2.1  
AVERAGE HDOP: 2.1

MINIMUM VDOP: 3.4  
MAXIMUM VDOP: 3.5  
AVERAGE VDOP: 3.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.528  
NRP Yrcs MEAN DIFFERENCE (m): -0.104  
NRP Zrcs MEAN DIFFERENCE (m): -0.102

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.223  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.190  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.240

NRP Xrcs 2-RMS DIFFERENCE (m): 1.079  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.282  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.315

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 324.488  
LGRP Yrcs POSITION (m): 0.263







APPROACH #: SU428662  
START TIME: 421020.249  
STOP TIME: 421141.249

MINIMUM HDOP: 5.2  
MAXIMUM HDOP: 6.0  
AVERAGE HDOP: 5.6

MINIMUM VDOP: 12.3  
MAXIMUM VDOP: 14.7  
AVERAGE VDOP: 13.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 3) DUE TO VIOLATION\*  
\* OF THE VERTICAL TUNNEL BOUNDARY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

-----  
NRP Xrcs MEAN DIFFERENCE (m): 0.381  
NRP Yrcs MEAN DIFFERENCE (m): -0.110  
NRP Zrcs MEAN DIFFERENCE (m): 0.128  
  
NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.161  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.199  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.247  
  
NRP Xrcs 2-RMS DIFFERENCE (m): 0.779  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.297  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.355

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION  
-----  
LGRP Xrcs POSITION (m): 343.499  
LGRP Yrcs POSITION (m): 0.201

APPROACH #: SU428662  
START TIME: 421020.249  
STOP TIME: 421141.249

MINIMUM HDOP: 5.2  
MAXIMUM HDOP: 6.0  
AVERAGE HDOP: 5.6

MINIMUM VDOP: 12.3  
MAXIMUM VDOP: 14.7  
AVERAGE VDOP: 13.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

-----  
NRP Xrcs MEAN DIFFERENCE (m): 0.381  
NRP Yrcs MEAN DIFFERENCE (m): -0.110  
NRP Zrcs MEAN DIFFERENCE (m): 0.128  
  
NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.161  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.199  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.247  
  
NRP Xrcs 2-RMS DIFFERENCE (m): 0.779  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.297  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.355

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION  
-----  
LGRP Xrcs POSITION (m): 343.499  
LGRP Yrcs POSITION (m): 0.201







APPROACH #: SU428664  
START TIME: 421436.499  
STOP TIME: 421552.499

MINIMUM HDOP: 3.7  
MAXIMUM HDOP: 4.0  
AVERAGE HDOP: 3.8

MINIMUM VDOP: 7.9  
MAXIMUM VDOP: 8.8  
AVERAGE VDOP: 8.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.660  
NRP Yrcs MEAN DIFFERENCE (m): -0.233  
NRP Zrcs MEAN DIFFERENCE (m): -0.026

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.941  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.529  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.288

NRP Xrcs 2-RMS DIFFERENCE (m): 1.622  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.706  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.293

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 179.324  
LGRP Yrcs POSITION (m): 0.315

APPROACH #: SU428664  
START TIME: 421436.499  
STOP TIME: 421552.499

MINIMUM HDOP: 3.7  
MAXIMUM HDOP: 4.0  
AVERAGE HDOP: 3.8

MINIMUM VDOP: 7.9  
MAXIMUM VDOP: 8.8  
AVERAGE VDOP: 8.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.660  
NRP Yrcs MEAN DIFFERENCE (m): -0.233  
NRP Zrcs MEAN DIFFERENCE (m): -0.026

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.941  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.529  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.288

NRP Xrcs 2-RMS DIFFERENCE (m): 1.622  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.706  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.293

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 179.324  
LGRP Yrcs POSITION (m): 0.315







APPROACH #: SU428702  
START TIME: 494928.499  
STOP TIME: 495024.499

MINIMUM HDOP: 2.3  
MAXIMUM HDOP: 2.3  
AVERAGE HDOP: 2.3

MINIMUM VDOP: 4.0  
MAXIMUM VDOP: 4.0  
AVERAGE VDOP: 4.0

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.371  
NRP Yrcs MEAN DIFFERENCE (m): -0.111  
NRP Zrcs MEAN DIFFERENCE (m): 0.100

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.141  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.229  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.255

NRP Xrcs 2-RMS DIFFERENCE (m): 0.755  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.319  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.324

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 63.126  
LGRP Yrcs POSITION (m): -2.705

APPROACH #: SU428702  
START TIME: 494928.499  
STOP TIME: 495024.499

MINIMUM HDOP: 2.3  
MAXIMUM HDOP: 2.3  
AVERAGE HDOP: 2.3

MINIMUM VDOP: 4.0  
MAXIMUM VDOP: 4.0  
AVERAGE VDOP: 4.0

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.371  
NRP Yrcs MEAN DIFFERENCE (m): -0.111  
NRP Zrcs MEAN DIFFERENCE (m): 0.100

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.141  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.229  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.255

NRP Xrcs 2-RMS DIFFERENCE (m): 0.755  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.319  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.324

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 63.126  
LGRP Yrcs POSITION (m): -2.705







APPROACH #: SU428704  
START TIME: 495379.999  
STOP TIME: 495476.499

MINIMUM HDOP: 2.3  
MAXIMUM HDOP: 2.3  
AVERAGE HDOP: 2.3

MINIMUM VDOP: 3.7  
MAXIMUM VDOP: 3.7  
AVERAGE VDOP: 3.7

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.402  
NRP Yrcs MEAN DIFFERENCE (m): -0.116  
NRP Zrcs MEAN DIFFERENCE (m): 0.075

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.120  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.152  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.266

NRP Xrcs 2-RMS DIFFERENCE (m): 0.812  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.278  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.305

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 130.363  
LGRP Yrcs POSITION (m): 0.831

APPROACH #: SU428704  
START TIME: 495379.999  
STOP TIME: 495476.499

MINIMUM HDOP: 2.3  
MAXIMUM HDOP: 2.3  
AVERAGE HDOP: 2.3

MINIMUM VDOP: 3.7  
MAXIMUM VDOP: 3.7  
AVERAGE VDOP: 3.7

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.402  
NRP Yrcs MEAN DIFFERENCE (m): -0.116  
NRP Zrcs MEAN DIFFERENCE (m): 0.075

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.120  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.152  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.266

NRP Xrcs 2-RMS DIFFERENCE (m): 0.812  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.278  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.305

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 130.363  
LGRP Yrcs POSITION (m): 0.831







APPROACH #: SU428706  
START TIME: 495787.749  
STOP TIME: 495883.999

MINIMUM HDOP: 2.2  
MAXIMUM HDOP: 2.2  
AVERAGE HDOP: 2.2

MINIMUM VDOP: 3.5  
MAXIMUM VDOP: 3.5  
AVERAGE VDOP: 3.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.457  
NRP Yrcs MEAN DIFFERENCE (m): -0.155  
NRP Zrcs MEAN DIFFERENCE (m): 0.089

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.123  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.242  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.230

NRP Xrcs 2-RMS DIFFERENCE (m): 0.921  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.394  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.291

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 128.751  
LGRP Yrcs POSITION (m): 1.374

APPROACH #: SU428706  
START TIME: 495787.749  
STOP TIME: 495883.999

MINIMUM HDOP: 2.2  
MAXIMUM HDOP: 2.2  
AVERAGE HDOP: 2.2

MINIMUM VDOP: 3.5  
MAXIMUM VDOP: 3.5  
AVERAGE VDOP: 3.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.457  
NRP Yrcs MEAN DIFFERENCE (m): -0.155  
NRP Zrcs MEAN DIFFERENCE (m): 0.089

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.123  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.242  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.230

NRP Xrcs 2-RMS DIFFERENCE (m): 0.921  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.394  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.291

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 128.751  
LGRP Yrcs POSITION (m): 1.374







APPROACH #: SU428708  
START TIME: 496206.999  
STOP TIME: 496303.749

MINIMUM HDOP: 2.3  
MAXIMUM HDOP: 2.3  
AVERAGE HDOP: 2.3

MINIMUM VDOP: 4.3  
MAXIMUM VDOP: 4.4  
AVERAGE VDOP: 4.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.523  
NRP Yrcs MEAN DIFFERENCE (m): -0.123  
NRP Zrcs MEAN DIFFERENCE (m): 0.118

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.095  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.192  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.246

NRP Xrcs 2-RMS DIFFERENCE (m): 1.050  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.312  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.341

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 136.857  
LGRP Yrcs POSITION (m): -1.208

APPROACH #: SU428708  
START TIME: 496206.999  
STOP TIME: 496303.749

MINIMUM HDOP: 2.3  
MAXIMUM HDOP: 2.3  
AVERAGE HDOP: 2.3

MINIMUM VDOP: 4.3  
MAXIMUM VDOP: 4.4  
AVERAGE VDOP: 4.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.523  
NRP Yrcs MEAN DIFFERENCE (m): -0.123  
NRP Zrcs MEAN DIFFERENCE (m): 0.118

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.095  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.192  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.246

NRP Xrcs 2-RMS DIFFERENCE (m): 1.050  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.312  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.341

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 136.857  
LGRP Yrcs POSITION (m): -1.208







APPROACH #: SU428710  
START TIME: 496631.249  
STOP TIME: 496729.249

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 4.5  
MAXIMUM VDOP: 4.6  
AVERAGE VDOP: 4.6

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.537  
NRP Yrcs MEAN DIFFERENCE (m): -0.172  
NRP Zrcs MEAN DIFFERENCE (m): 0.154

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.124  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.266  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.223

NRP Xrcs 2-RMS DIFFERENCE (m): 1.082  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.436  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.380

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 153.786  
LGRP Yrcs POSITION (m): 0.973

APPROACH #: SU428710  
START TIME: 496631.249  
STOP TIME: 496729.249

MINIMUM HDOP: 2.4  
MAXIMUM HDOP: 2.4  
AVERAGE HDOP: 2.4

MINIMUM VDOP: 4.5  
MAXIMUM VDOP: 4.6  
AVERAGE VDOP: 4.6

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.537  
NRP Yrcs MEAN DIFFERENCE (m): -0.172  
NRP Zrcs MEAN DIFFERENCE (m): 0.154

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.124  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.266  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.223

NRP Xrcs 2-RMS DIFFERENCE (m): 1.082  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.436  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.380

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 153.786  
LGRP Yrcs POSITION (m): 0.973







APPROACH #: SU428712  
START TIME: 497043.499  
STOP TIME: 497140.749

MINIMUM HDOP: 2.5  
MAXIMUM HDOP: 2.5  
AVERAGE HDOP: 2.5

MINIMUM VDOP: 4.8  
MAXIMUM VDOP: 4.9  
AVERAGE VDOP: 4.9

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
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TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.460  
NRP Yrcs MEAN DIFFERENCE (m): -0.197  
NRP Zrcs MEAN DIFFERENCE (m): 0.111

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.164  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.302  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.230

NRP Xrcs 2-RMS DIFFERENCE (m): 0.934  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.497  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.319

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 182.509  
LGRP Yrcs POSITION (m): 0.663

APPROACH #: SU428712  
START TIME: 497043.499  
STOP TIME: 497140.749

MINIMUM HDOP: 2.5  
MAXIMUM HDOP: 2.5  
AVERAGE HDOP: 2.5

MINIMUM VDOP: 4.8  
MAXIMUM VDOP: 4.9  
AVERAGE VDOP: 4.9

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.460  
NRP Yrcs MEAN DIFFERENCE (m): -0.197  
NRP Zrcs MEAN DIFFERENCE (m): 0.111

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.164  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.302  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.230

NRP Xrcs 2-RMS DIFFERENCE (m): 0.934  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.497  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.319

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 182.509  
LGRP Yrcs POSITION (m): 0.663







APPROACH #: SU428714  
START TIME: 497492.749  
STOP TIME: 497593.499

MINIMUM HDOP: 2.7  
MAXIMUM HDOP: 2.8  
AVERAGE HDOP: 2.7

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.5  
AVERAGE VDOP: 5.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.666  
NRP Yrcs MEAN DIFFERENCE (m): -0.131  
NRP Zrcs MEAN DIFFERENCE (m): 0.118

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.363  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.201  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.245

NRP Xrcs 2-RMS DIFFERENCE (m): 1.380  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.331  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.340

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 117.852  
LGRP Yrcs POSITION (m): -0.045

APPROACH #: SU428714  
START TIME: 497492.749  
STOP TIME: 497593.499

MINIMUM HDOP: 2.7  
MAXIMUM HDOP: 2.8  
AVERAGE HDOP: 2.7

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.5  
AVERAGE VDOP: 5.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
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\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.666  
NRP Yrcs MEAN DIFFERENCE (m): -0.131  
NRP Zrcs MEAN DIFFERENCE (m): 0.118

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.363  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.201  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.245

NRP Xrcs 2-RMS DIFFERENCE (m): 1.380  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.331  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.340

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 117.852  
LGRP Yrcs POSITION (m): -0.045







APPROACH #: SU428720  
START TIME: 499610.499  
STOP TIME: 499709.499

MINIMUM HDOP: 2.7  
MAXIMUM HDOP: 2.7  
AVERAGE HDOP: 2.7

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.660  
NRP Yrcs MEAN DIFFERENCE (m): -0.239  
NRP Zrcs MEAN DIFFERENCE (m): 0.169

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.245  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.353  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.287

NRP Xrcs 2-RMS DIFFERENCE (m): 1.342  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.595  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.443

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 154.243  
LGRP Yrcs POSITION (m): 0.252

APPROACH #: SU428720  
START TIME: 499610.499  
STOP TIME: 499709.499

MINIMUM HDOP: 2.7  
MAXIMUM HDOP: 2.7  
AVERAGE HDOP: 2.7

MINIMUM VDOP: 5.3  
MAXIMUM VDOP: 5.3  
AVERAGE VDOP: 5.3

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.660  
NRP Yrcs MEAN DIFFERENCE (m): -0.239  
NRP Zrcs MEAN DIFFERENCE (m): 0.169

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.245  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.353  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.287

NRP Xrcs 2-RMS DIFFERENCE (m): 1.342  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.595  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.443

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 154.243  
LGRP Yrcs POSITION (m): 0.252







APPROACH #: SU428722  
START TIME: 500032.999  
STOP TIME: 500131.749

MINIMUM HDOP: 2.8  
MAXIMUM HDOP: 2.8  
AVERAGE HDOP: 2.8

MINIMUM VDOP: 5.4  
MAXIMUM VDOP: 5.4  
AVERAGE VDOP: 5.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.575  
NRP Yrcs MEAN DIFFERENCE (m): -0.269  
NRP Zrcs MEAN DIFFERENCE (m): 0.052

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.197  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.366  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.280

NRP Xrcs 2-RMS DIFFERENCE (m): 1.167  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.651  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.299

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 140.551  
LGRP Yrcs POSITION (m): -1.153

APPROACH #: SU428722  
START TIME: 500032.999  
STOP TIME: 500131.749

MINIMUM HDOP: 2.8  
MAXIMUM HDOP: 2.8  
AVERAGE HDOP: 2.8

MINIMUM VDOP: 5.4  
MAXIMUM VDOP: 5.4  
AVERAGE VDOP: 5.4

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.575  
NRP Yrcs MEAN DIFFERENCE (m): -0.269  
NRP Zrcs MEAN DIFFERENCE (m): 0.052

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.197  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.366  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.280

NRP Xrcs 2-RMS DIFFERENCE (m): 1.167  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.651  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.299

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 140.551  
LGRP Yrcs POSITION (m): -1.153







APPROACH #: SU428724  
START TIME: 500462.999  
STOP TIME: 500563.249

MINIMUM HDOP: 2.9  
MAXIMUM HDOP: 2.9  
AVERAGE HDOP: 2.9

MINIMUM VDOP: 5.5  
MAXIMUM VDOP: 5.5  
AVERAGE VDOP: 5.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
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\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.709  
NRP Yrcs MEAN DIFFERENCE (m): -0.167  
NRP Zrcs MEAN DIFFERENCE (m): 0.118

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.369  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.256  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.260

NRP Xrcs 2-RMS DIFFERENCE (m): 1.466  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.421  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.351

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 153.991  
LGRP Yrcs POSITION (m): -1.268

APPROACH #: SU428724  
START TIME: 500462.999  
STOP TIME: 500563.249

MINIMUM HDOP: 2.9  
MAXIMUM HDOP: 2.9  
AVERAGE HDOP: 2.9

MINIMUM VDOP: 5.5  
MAXIMUM VDOP: 5.5  
AVERAGE VDOP: 5.5

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.709  
NRP Yrcs MEAN DIFFERENCE (m): -0.167  
NRP Zrcs MEAN DIFFERENCE (m): 0.118

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.369  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.256  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.260

NRP Xrcs 2-RMS DIFFERENCE (m): 1.466  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.421  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.351

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 153.991  
LGRP Yrcs POSITION (m): -1.268







APPROACH #: SU428730  
START TIME: 501793.749  
STOP TIME: 501896.999

MINIMUM HDOP: 3.5  
MAXIMUM HDOP: 3.6  
AVERAGE HDOP: 3.6

MINIMUM VDOP: 6.7  
MAXIMUM VDOP: 6.9  
AVERAGE VDOP: 6.8

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.589  
NRP Yrcs MEAN DIFFERENCE (m): -0.164  
NRP Zrcs MEAN DIFFERENCE (m): 0.089

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.242  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.378  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.275

NRP Xrcs 2-RMS DIFFERENCE (m): 1.202  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.501  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.328

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 128.892  
LGRP Yrcs POSITION (m): -0.268

APPROACH #: SU428730  
START TIME: 501793.749  
STOP TIME: 501896.999

MINIMUM HDOP: 3.5  
MAXIMUM HDOP: 3.6  
AVERAGE HDOP: 3.6

MINIMUM VDOP: 6.7  
MAXIMUM VDOP: 6.9  
AVERAGE VDOP: 6.8

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* UNSUCCESSFUL APPROACH (MOS 1) DUE TO LESS THAN\*  
\* 95 PERCENT OF ALL OF THE DATA POINTS WITHIN \*  
\* THE VERTICAL FILTER REQUIREMENTS \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.589  
NRP Yrcs MEAN DIFFERENCE (m): -0.164  
NRP Zrcs MEAN DIFFERENCE (m): 0.089

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.242  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.378  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.275

NRP Xrcs 2-RMS DIFFERENCE (m): 1.202  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.501  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.328

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 128.892  
LGRP Yrcs POSITION (m): -0.268







APPROACH #: SU428734  
START TIME: 502642.499  
STOP TIME: 502746.499

MINIMUM HDOP: 4.0  
MAXIMUM HDOP: 4.0  
AVERAGE HDOP: 4.0

MINIMUM VDOP: 8.8  
MAXIMUM VDOP: 9.1  
AVERAGE VDOP: 9.0

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: TOTAL SYSTEM ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.659  
NRP Yrcs MEAN DIFFERENCE (m): -0.087  
NRP Zrcs MEAN DIFFERENCE (m): 0.172

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.391  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.197  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.288

NRP Xrcs 2-RMS DIFFERENCE (m): 1.375  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.263  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.449

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 99.080  
LGRP Yrcs POSITION (m): 0.007

APPROACH #: SU428734  
START TIME: 502642.499  
STOP TIME: 502746.499

MINIMUM HDOP: 4.0  
MAXIMUM HDOP: 4.0  
AVERAGE HDOP: 4.0

MINIMUM VDOP: 8.8  
MAXIMUM VDOP: 9.1  
AVERAGE VDOP: 9.0

MINIMUM NUMBER OF SVs: 4  
MAXIMUM NUMBER OF SVs: 4  
AVERAGE NUMBER OF SVs: 4

\*\*\*\*\*  
\* METHOD OF EVALUATION: SENSOR ACCURACY \*  
\*\*\*\*\*

\*\*\*\*\*  
\* VALID APPROACH \*  
\*\*\*\*\*

\*\*\*\*\*  
\* SUCCESSFUL APPROACH \*  
\*\*\*\*\*

TIME HISTORY ANALYSIS FROM 200 ft HAT -> ROLL-OUT

NRP Xrcs MEAN DIFFERENCE (m): 0.659  
NRP Yrcs MEAN DIFFERENCE (m): -0.087  
NRP Zrcs MEAN DIFFERENCE (m): 0.172

NRP Xrcs 2-SIGMA DIFFERENCE (m): 0.391  
NRP Yrcs 2-SIGMA DIFFERENCE (m): 0.197  
NRP Zrcs 2-SIGMA DIFFERENCE (m): 0.288

NRP Xrcs 2-RMS DIFFERENCE (m): 1.375  
NRP Yrcs 2-RMS DIFFERENCE (m): 0.263  
NRP Zrcs 2-RMS DIFFERENCE (m): 0.449

LANDING GEAR REFERENCE POINT TOUCHDOWN POSITION

LGRP Xrcs POSITION (m): 99.080  
LGRP Yrcs POSITION (m): 0.007







## **APPENDIX D**

### **LASER TRACKER BIAS CORRECTION PLOTS**

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## GLOSSARY

AP	Aim Point
CAT	Category
CG	Center of Gravity
CMN	Control Motion Noise
CTOL	Conventional Take-Off and Landing Aim Point
DGPS	Differential Global Positioning System
EOR	End of Runway
FAA	Federal Aviation Administration
FAF	Final Approach Fix
GS	Glide Slope
HAT	Height Above Threshold
HDOP	Horizontal Dilution of Precision
IAF	Initial Approach Fix
ICAO	International Civil Aviation Organization
ILS	Instrument Landing System
LCMN	Lateral Control Motion Noise
LFTE	Lateral Flight Technical Error
LGRP	Landing Gear Reference Point
LPFE	Lateral Path Following Error
LSE	Lateral Sensor Error
LTSE	Lateral Total System Error
LTSE <sub>estimate</sub>	Lateral Total System Error Estimate
MLS	Microwave Landing System
MOS	Measure of Success
MSL	Mean Sea Level
NRP	Navigation Reference Point
N <sub>MAG</sub>	Magnetic North
N <sub>TRUE</sub>	True North
PFE	Path Following Error
RCLTSE	Rollout Control Lateral Total System Error
RCS	Runway Coordinate System
RNP	Required Navigation Performance
SV	Satellite Vehicle
TD	Touch Down
ULE	Unfiltered Lateral Error
UVE	Unfiltered Vertical Error
VCMN	Vertical Control Motion Noise
VDOP	Vertical Dilution of Precision
VFTE	Vertical Flight Technical Error
VMC	Visual Meteorological Conditions
VPFE	Vertical Path Following Error
VSE	Vertical Sensor Error
VTSE	Vertical Total System Error
VTSE <sub>estimate</sub>	Vertical Total System Error Estimate
Xrcs	Runway Coordinate System X Direction
Yrcs	Runway Coordinate System Y Direction
Zrcs	Runway Coordinate System Z Direction
l +2SIG	Mean Absolute Value + Two Sigma Standard Deviation
2RMS	Two Root Mean Square
2SIGUCL	Two Sigma Standard Deviation Upper Confidence Level

95P

95<sup>th</sup> Percentile

# REPORT DOCUMENTATION PAGE

Form Approved  
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED	
	June 1995	Technical Memorandum	
4. TITLE AND SUBTITLE		5. FUNDING NUMBERS	
Flight Test Evaluation of the Stanford University/United Airlines Differential GPS Category III Automatic Landing System		505-64-13	
6. AUTHOR(S)			
David N. Kaufmann and B. David McNally			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)		8. PERFORMING ORGANIZATION REPORT NUMBER	
Ames Research Center Moffett Field, CA 94035-1000		A-950066	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
National Aeronautics and Space Administration Washington, DC 20546-0001		NASA TM-110354	
11. SUPPLEMENTARY NOTES			
Point of Contact: David Kaufmann, Ames Research Center, MS N210-9, Moffett Field, CA 94035-1000; (415) 604-5440			
12a. DISTRIBUTION/AVAILABILITY STATEMENT		12b. DISTRIBUTION CODE	
Unclassified — Unlimited Subject Category 02			
13. ABSTRACT (Maximum 200 words)			
<p>Test flights were conducted to evaluate the capability of Differential Global Positioning System (DGPS) to provide the accuracy and integrity required for International Civil Aviation Organization (ICAO) Category (CAT) III precision approach and landings. These test flights were part of a Federal Aviation Administration (FAA) program to evaluate the technical feasibility of using DGPS based technology for CAT III precision approach and landing applications.</p> <p>A United Airlines Boeing 737-300(N304UA) was equipped with DGPS receiving equipment and additional computing capability provided by Stanford University. The test flights were conducted at NASA Ames Research Center's Crows Landing Flight Facility, Crows Landing, California. The flight test evaluation was based on completing 100 approaches and autolandings; 90 touch and go, and 10 terminating with a full stop. Two types of accuracy requirements were evaluated: 1) Total system error, based on the Required Navigation Performance (RNP), and 2) Navigation sensor error, based on ICAO requirements for the Microwave Landing System (MLS).</p> <p>All of the approaches and autolandings were evaluated against ground truth reference data provided by a laser tracker. Analysis of these approaches and autolandings shows that the Stanford University/United Airlines system met the requirements for a successful approach and autolanding 98 out of 100 approaches and autolandings, based on the total system error requirements as specified in the FAA CAT III Level 2 Flight Test Plan.</p>			
14. SUBJECT TERMS		15. NUMBER OF PAGES	
DGPS automatic landing system		474	
		16. PRICE CODE	
		A20	
17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified		